

Georgia Tobacco Use Surveillance Report



2009

Acknowledgements

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Executive Summary

Cigarette smoking remains a leading preventable cause of illness and death in Georgia.

Mortality

- Over 10,000 adult Georgians die from smoking-related illnesses annually.
 - About 4,400 die from cancer
 - About 3,300 die from cardiovascular diseases
 - About 2,700 die from respiratory diseases
- About 35 infants die every year because their mothers smoked during pregnancy.

Economic Costs

- \$3.4 billion in lost productivity costs in Georgia for adults are attributed to smoking annually.
- \$1.8 billion in healthcare costs in Georgia for adults are attributed to smoking annually.

Tobacco Use in Georgia

- Approximately 23,000 (6%) middle school students and 81,000 (19%) high school students in Georgia smoke cigarettes.
- Approximately 1,400 (6%) middle school smokers and 24,000 (30%) high school smokers buy their cigarettes at gas stations or convenience stores.
- Approximately 1.3 million (19%) adult Georgians smoke cigarettes.
- The prevalence of current smoking among adults is significantly higher among younger age groups and those with fewer years of education.
- 10% of pregnant women in Georgia smoked during the last three months of their pregnancy.

Secondhand Smoke and Asthma

- Approximately 41,000 (11%) middle school students, 44,000 (10%) high school students, and 524,000 (8%) adults in Georgia have asthma.
- Among persons with asthma, approximately 3,000 (8%) middle school students, 8,000 (19%) high school students, and 126,000 (24%) adults smoke cigarettes.

Executive Summary (continued)

Reducing Tobacco Use in Georgia

- Approximately 1.5 million (54%) adult Georgians who had ever smoked report having quit smoking.
- Approximately 760,000 (57%) adult smokers in Georgia have ever stopped smoking cigarettes for one day or longer in an attempt to quit.
- Approximately 151,000 (25%) adult smokers who made a quit attempt used medication such as nicotine patch or gum on their last quit attempt.
- Approximately 673,000 (59%) adult smokers are seriously considering stopping smoking.
- Approximately 485,000 (67%) adult smokers who visited their health care provider in the past year indicated their health care provider advised them not to smoke.
- Of all current adult smokers who were advised not to smoke when they visited their health care provider in the past year, approximately 144,000 (30%) of them were given a prescription for medication to help them quit and approximately 80,000 (17%) of them were advised to participate in a smoking cessation class or program.

Policy

- A majority (81%) of adults in Georgia do not allow smoking anywhere inside their homes.
- A majority (85%) of employed adults in Georgia indicate their worksite has a policy that prohibits smoking at work.
- Almost all public middle (99%) and high schools (99%) have a policy prohibiting tobacco use.
- Most middle schools and high schools have procedures to inform students ($\geq 99\%$ MS, 100% HS), and faculty and staff (88% MS, 93% HS) of the actions taken when someone is non-compliant with the school policy; however, the procedures were applicable to visitors in only 69% of middle schools and 65% of high schools.
- Half of adult smokers and a majority (82%) of adult non-smokers support laws making restaurants smoke-free.
- Nearly half (46%) of adult smokers and three-fourths (75%) of adult non-smokers would support an additional tax on cigarettes.

Introduction

The effect of tobacco use on health has been a topic of research since the beginning of the 20th century (1). There is ample scientific literature providing evidence of a causal relationship between tobacco use and disease, disability, and death. Tobacco use is related to many health conditions (Table 1) and is recognized as one of the most common preventable causes of death in the United States (2). Smoking is not only harmful to smokers but also to children and non-smokers who are exposed to secondhand smoke. Exposure to secondhand smoke is associated with decreased lung function and development, bronchitis, respiratory infections, asthma severity, lung cancer, and heart disease (3).

Table 1. Causes of death for which tobacco use is a contributing cause

Causes of death			
Cancer	Cardiovascular diseases	Respiratory diseases	Perinatal conditions
Lip, oral cavity, pharynx	Ischemic heart disease	Pneumonia	Short gestation
Esophagus	Other heart disease	Influenza	Low birth weight
Stomach	Stroke	Bronchitis	Respiratory distress syndrome
Pancreas	Atherosclerosis	Emphysema	Respiratory conditions of newborns
Larynx	Aortic aneurysm	Chronic airway obstruction	Sudden infant death syndrome (SIDS)
Trachea, lung, bronchus	Other diseases of the circulatory system		
Cervix			
Kidney and renal pelvis			
Bladder			
Acute myeloid leukemia			

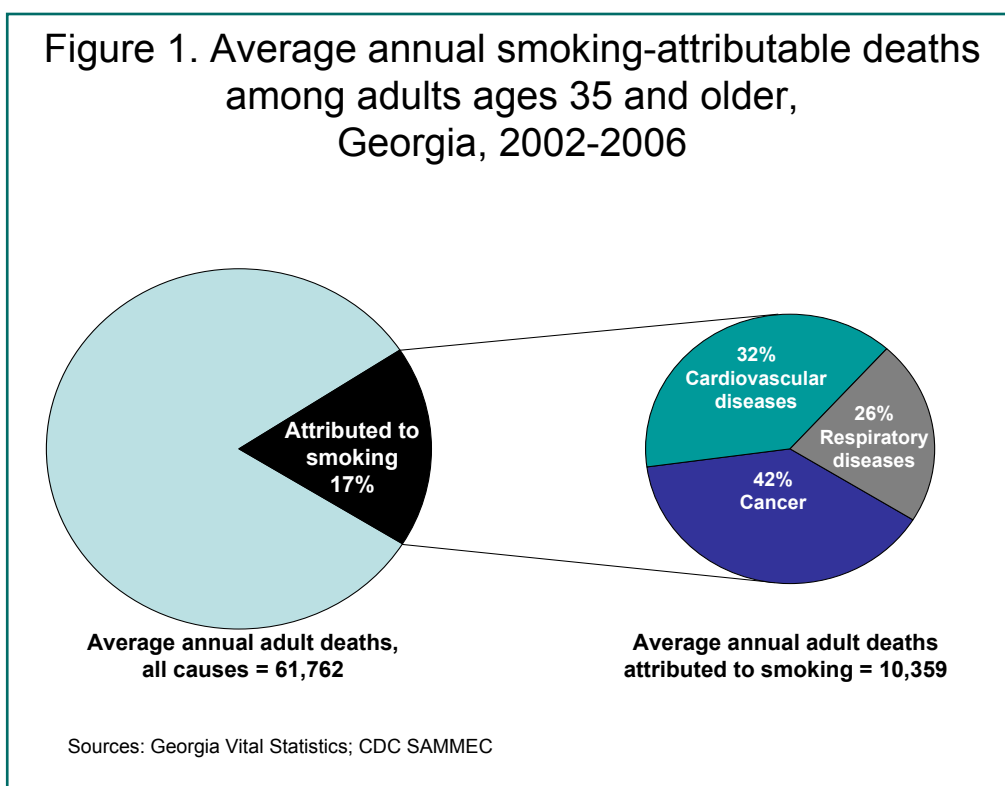
Over the past 40 years, the nationwide percentage of smokers has declined, falling from 40% in 1965 to 20% in 2007 (4, 5, 6); still many people continue to smoke. Cigarette smoking is responsible for over 10,000 deaths, more than 170,000 years of potential life lost, and approximately \$3.4 billion in productivity losses in Georgia every year.

The 2009 Georgia Tobacco Use Surveillance Report presents data on smoking-related deaths and costs, tobacco use prevalence, and policies affecting tobacco use. It also indicates the status of the tobacco use goals for Georgia as they relate to the Healthy People 2010 Objectives (Appendix Table I). This is the second comprehensive surveillance report describing the burden of tobacco use in Georgia. Data from this report will be used by the Georgia Department of Human Resources and partner organizations to evaluate, redesign, and enhance program activities and strategies focusing on tobacco use prevention in Georgia.

Burden of Tobacco Use in Georgia

Mortality

Cigarette smoking is a leading cause of preventable illness and death in Georgia. From 2002 to 2006, an estimated annual average of 10,359 deaths -or 17% of the annual average of 61,762 deaths due to all causes- among Georgians ages 35 years and older were attributed to cigarette smoking. Of these estimated deaths, 4,360 (42%) were due to cancer, 3,289 (32%) were due to cardiovascular diseases, and 2,710 (26%) were due to respiratory diseases (Figure 1). The most common causes of death attributed to smoking in Georgia were lung cancer (3,464 deaths), chronic obstructive pulmonary disease (COPD) (2,253 deaths), ischemic heart disease (1,686 deaths), and stroke (496 deaths).



From 2002 to 2006, cigarette smoking caused an estimated annual average of 6,463 deaths among adult males and 3,896 deaths among adult females in Georgia (Appendix Table A).

From 2002 to 2006, cigarette smoking during pregnancy resulted in an estimated annual average of 17 infant deaths due to short gestation or low birth weight and 15 infant deaths due to sudden infant death syndrome (SIDS) (Appendix Table A).

From 2002 to 2006, the average annual estimates of adult deaths attributed to smoking for each of the 18 public health districts ranged from 202 to 887 deaths (Appendix Table B).

Burden of Tobacco Use in Georgia

Years of Potential Life Lost

Years of potential life lost (YPLL), a calculation used to measure premature mortality, is the sum of the years of life lost annually by all persons who die before their expected age of death. From 2002 to 2006, an estimated 173,302 years of life were lost on average annually in Georgia from smoking. Adult male and female smokers lost an average of 16.5 years of potential life because they smoked. Adults who died from cancer, particularly lung cancer attributed to smoking, lost an average of 17.7 years of potential life. Adults who died from cardiovascular diseases and respiratory diseases attributed to smoking lost an average of 17.6 years and 13.1 years, respectively (Table 2).

Table 2. Average annual years of potential life lost (YPLL), number of deaths, and average YPLL attributed to smoking by disease category and sex, Georgia, 2002-2006

	YPLL attributed to smoking	Deaths attributed to smoking	Average YPLL per death from smoking
Cancer			
Male	50,325	2,945	17.1
Female	26,731	1,415	18.9
Total Cancer	77,056	4,360	17.7
Cardiovascular Diseases			
Male	38,088	2,091	18.2
Female	19,827	1,198	16.6
Total Cardiovascular Diseases	57,915	3,289	17.6
Respiratory Diseases			
Male	17,954	1,427	12.6
Female	17,661	1,283	13.8
Total Respiratory Diseases	35,615	2,710	13.1
Total Adult (35+ years)	170,586	10,359	16.5*
Perinatal Conditions			
Male	1,477	20	73.9
Female	1,239	15	82.6
Total Perinatal Conditions	2,716	35	77.6¶
Overall Total	173,302	10,394	16.7

* Indicates the average years of potential life lost attributed to smoking per adult smoker

¶ Indicates the average years of potential life lost attributed to smoking per child born of a woman who smoked during pregnancy

Source: Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC) application

Table 3. Average annual smoking-attributable economic costs, Georgia, 2002-2006

Cost component	Total
Smoking-attributable productivity losses	
Men	\$2,278,000,000
Women	\$1,169,000,000
Total	\$3,447,000,000
Smoking-attributable adult healthcare costs, 1998*	
Ambulatory care	\$742,000,000
Hospital care	\$421,000,000
Prescription drugs	\$149,000,000
Nursing home	\$311,000,000
Other care	\$135,000,000
Total	\$1,758,000,000
Total adult (35+ years) costs	\$5,205,000,000
Infant costs	
Smoking-attributable neonatal healthcare costs¶	\$9,000,000
Total costs	\$5,214,000,000

* Expenditure smoking-attributable fractions obtained from Miller, et.al and 1998 personal healthcare expenditure data obtained from Centers for Medicare and Medicaid Services.

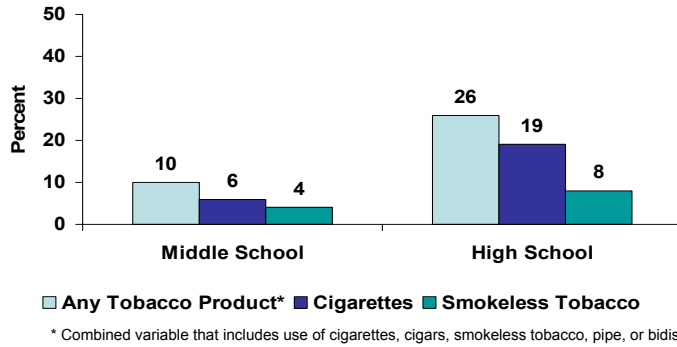
¶ Neonatal expenditures are based on the reimbursement levels used by a sample of private insurers in 1996. Smoking-attributable neonatal expenditures are based on data from 1999 Georgia Birth Certificate and Natality Reports.

Economic Costs

The average annual smoking-related productivity losses in Georgia during 2002-2006 were estimated at almost \$2.3 billion for men and \$1.2 billion for women. In 1998, the smoking-related adult healthcare costs were estimated at almost \$1.8 billion. These healthcare costs plus the average annual productivity losses exceeded \$5.2 billion per year (Table 3).

Tobacco Use in Georgia

Figure 2. Percentage of youth tobacco users, by school type and tobacco product, Georgia, 2007

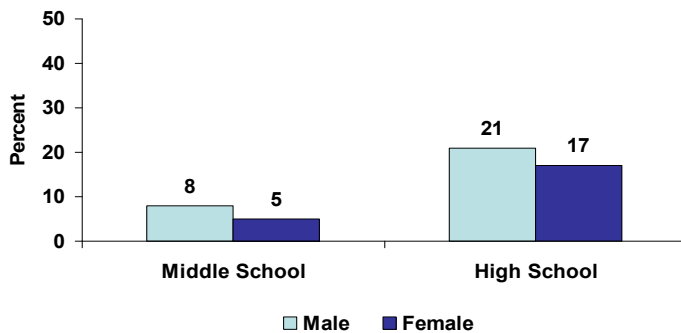


Source: Georgia Student Health Survey (YRBS)

Tobacco Use among Youth

In 2007, approximately 36,000 (10%) middle school students and 113,000 (26%) high school students in Georgia used some form of tobacco; 23,000 (6%) middle school students and 81,000 (19%) high school students smoked cigarettes, while 15,000 (4%) middle school students and 39,000 (8%) high school students used smokeless tobacco (Figure 2).

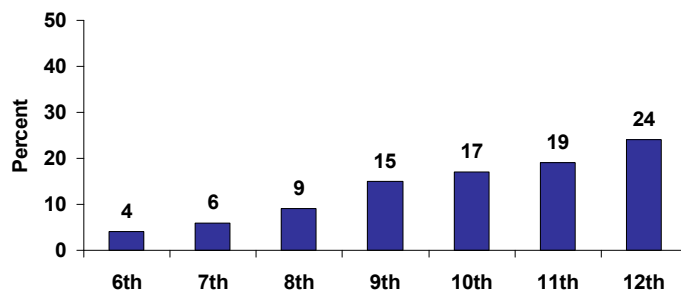
Figure 3. Percentage of youth smokers, by school type and sex, Georgia, 2007



Source: Georgia Student Health Survey (YRBS)

Male and female students smoked cigarettes at comparable rates (Figure 3).

Figure 4. Percentage of youth smokers, by school grade, Georgia, 2007



Source: Georgia Student Health Survey (YRBS)

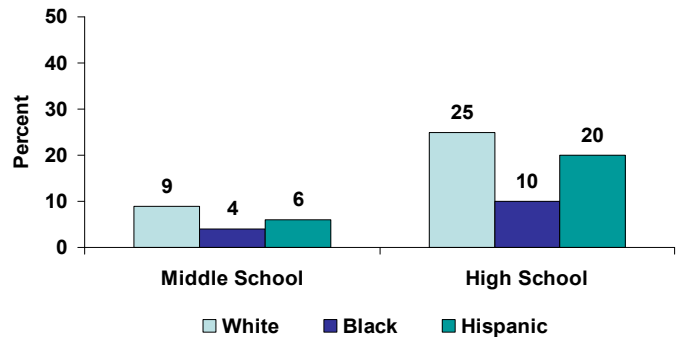
Among middle school students, 8th graders (9%) were significantly more likely than 6th graders (4%) to smoke cigarettes. Among high school students, 12th graders (24%) were significantly more likely than 9th graders (15%) to smoke cigarettes (Figure 4).

Tobacco Use in Georgia

In both middle and high school, the smoking prevalence was significantly higher among non-Hispanic whites than among non-Hispanic blacks (Figure 5).

In 2007, approximately 22,000 (6.1%) middle school students smoked a whole cigarette before age 11 and approximately 68,000 (14.5%) high school students smoked a whole cigarette before age 13 (Appendix Table C).

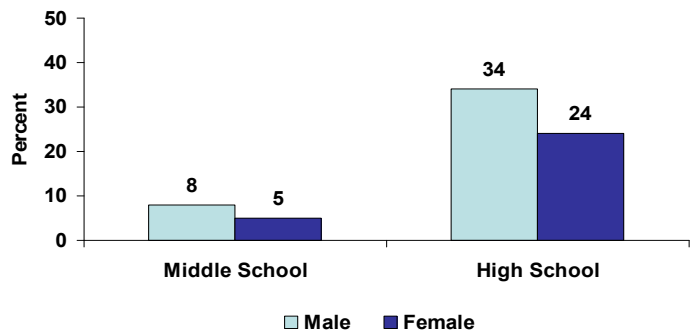
Figure 5. Percentage of youth smokers, by school type and race/ethnicity, Georgia, 2007



Source: Georgia Student Health Survey (YRBS)

In 2007, approximately 1,400 (6%) middle school smokers and 24,000 (30%) high school smokers bought cigarettes at gas stations or convenience stores. Male and female middle school smokers were similarly likely to purchase cigarettes at gas stations or convenience stores; however, in high school, cigarettes purchases at gas stations or convenience stores were more common among male smokers than among female smokers (Figure 6).

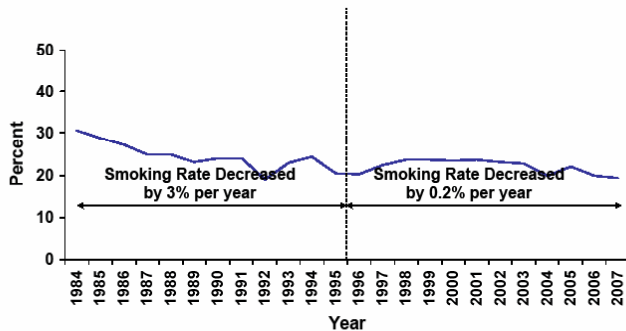
Figure 6. Percentage of youth who purchased cigarettes at gas stations or convenience stores, by school type and sex, Georgia, 2007



Source: Georgia Student Health Survey (YRBS)

Tobacco Use in Georgia

Figure 7. Current adult smoking, Georgia, 1984-2007

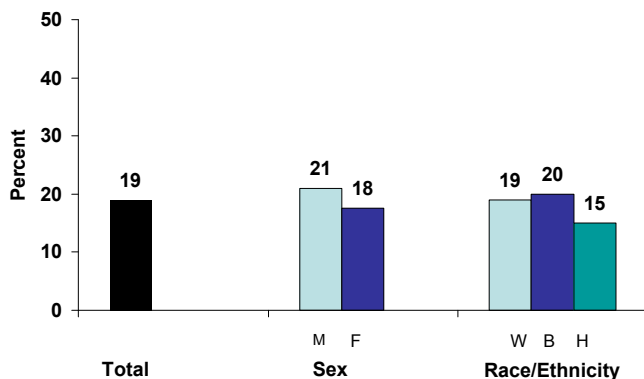


Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

Tobacco Use among Adults

Cigarette use among adult Georgians has remained stable during the past decade. From 1985 through 1995 the prevalence of adult smokers declined by an average of 3% per year. From 1996 through 2007, however, the prevalence did not change significantly, declining by an average of 0.2% per year (Figure 7).

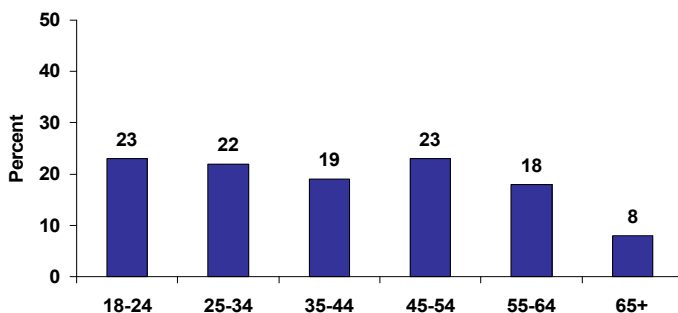
Figure 8. Percentage of adult smokers, Georgia, 2007



Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

In 2007, approximately 1.3 million (19%) adult Georgians were current smokers, 23% were former smokers, and 58% were never smokers. More males (21%) than females (18%) smoked cigarettes. Non-Hispanic black adults (20%) were equally likely as non-Hispanic white adults (19%) to smoke (Figure 8).

Figure 9. Percentage of adult smokers, by age, Georgia, 2007



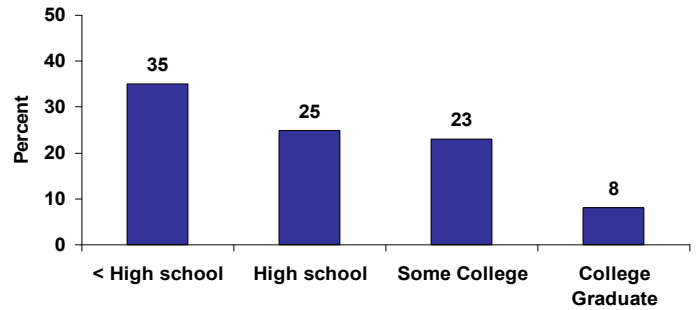
Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

The overall adult smoking prevalence was significantly higher among adults ages 18-64 than among adults ages 65 and older (Figure 9).

Tobacco Use in Georgia

The smoking prevalence among adults in Georgia decreased with increasing education level. Adults who did not finish high school have the highest smoking prevalence (35%) among all educational attainment groups (Figure 10).

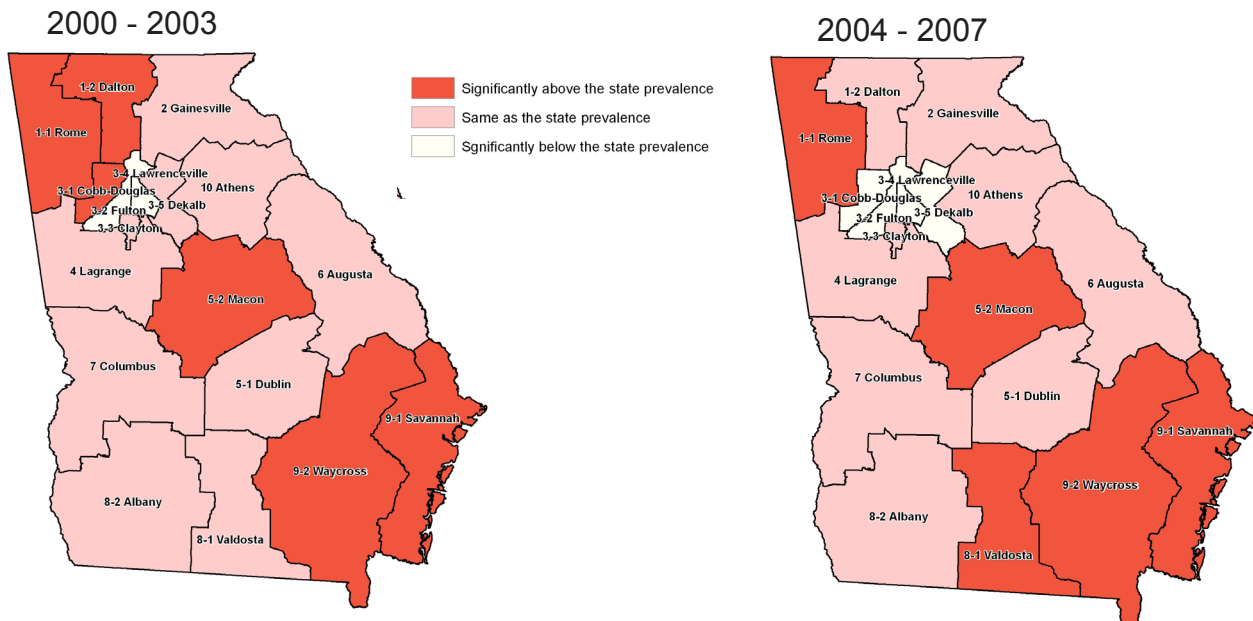
Figure 10. Percentage of adult smokers, by educational attainment, Georgia, 2007



Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

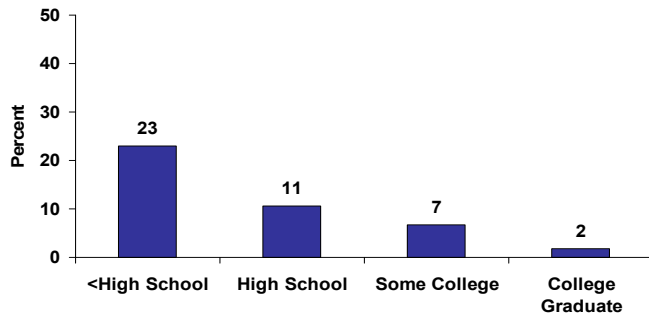
The annual average adult smoking prevalence varied by public health district (Map 1). Table D in the Appendix lists the smoking prevalence for each of the public health districts.

Map 1. Percent of Adults Who Smoke Cigarettes by Health District, Georgia



Tobacco Use in Georgia

Figure 11. Percentage of women who smoked during the last 3 months of their pregnancy, by educational attainment, Georgia, 2006



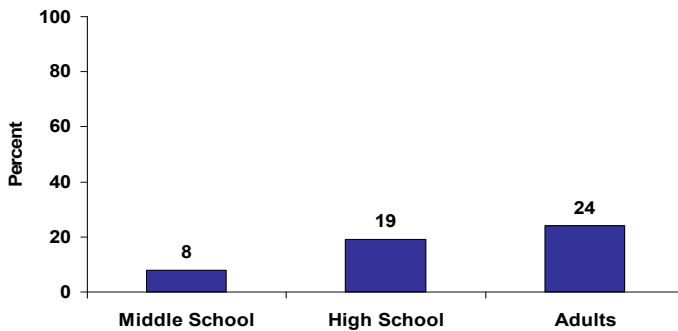
Source: Georgia Pregnancy Risk Assessment and Monitoring System (PRAMS)

Tobacco Use among Pregnant Women

In 2006, 9.5% of women who delivered babies in Georgia smoked cigarettes during the last three months of pregnancy. Women with less than a high school education (23%) were significantly more likely than women with at least some college education to have smoked cigarettes in the last three months of pregnancy (Figure 11). Women with annual household incomes of less than \$15,000 (15%) and women with annual household incomes between \$15,000 and \$24,999 (12%) were significantly more likely than women with annual household incomes of \$50,000 or more (3.5%) to have smoked cigarettes in the last three months of pregnancy (Appendix Table E).

Secondhand Smoke and Asthma

Figure 12. Percentage of youth and adults with asthma who smoke, Georgia, 2007



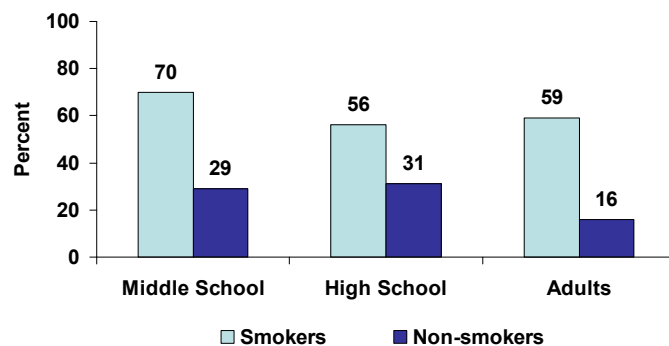
Sources: Georgia Student Health Survey (YRBS); Georgia Behavioral Risk Factor Surveillance System (BRFSS)

Secondhand smoke is a known environmental trigger for asthma. Persons with asthma may experience severe asthma episodes or attacks as a result of being exposed to secondhand smoke. Despite this fact, many people with asthma choose to smoke.

Approximately 41,000 (11%) middle school students, 44,000 (10%) high school students, and 524,000 (8%) adults in Georgia have asthma. Among these, approximately 3,000 (8%) middle school students, 8,000 (19%) high school students, and 126,000 (24%) adults smoke (Figure 12).

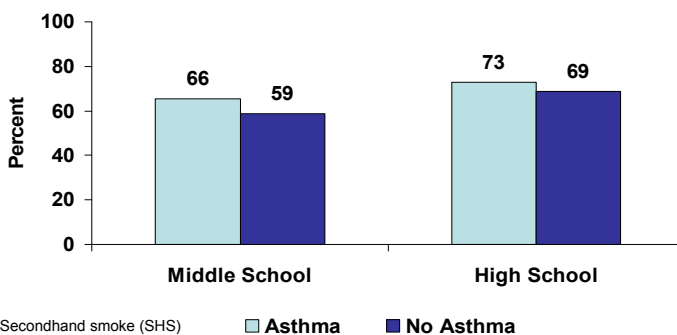
The 2006 Surgeon General's report (3) concluded that exposure to secondhand smoke poses a health risk in children and non-smoking adults. Much progress has been achieved in the adoption of smoke-free policies in public places during the past decade. Despite these efforts, many persons are exposed to secondhand smoke at home. Nearly three-fourths of middle school smokers (70%) and over half of high school smokers (56%) live with a smoker. Nearly one-third of middle school non-smokers (29%) and high school non-smokers (31%) live with a smoker. Nearly three in five (59%) adult smokers and one in six (16%) adult non-smokers in Georgia live with a smoker (Figure 13).

Figure 13. Percentage of youth and adults who live with a smoker, by smoking status, Georgia, 2004 and 2005



Sources: 2004 Georgia Adult Tobacco Survey and 2005 Georgia Youth Tobacco Survey

Figure 14. Percentage of youth exposed to SHS* at home, room, or car, by school type and asthma status, Georgia, 2005



* Secondhand smoke (SHS) Asthma No Asthma

Source: Georgia Youth Tobacco Survey

Among youth with asthma, approximately two-thirds (66%) of middle school students and three-fourths (73%) of high school students are exposed to secondhand smoke at home or from being in the same room or car with a smoker (Figure 14).

Reducing Tobacco Use in Georgia

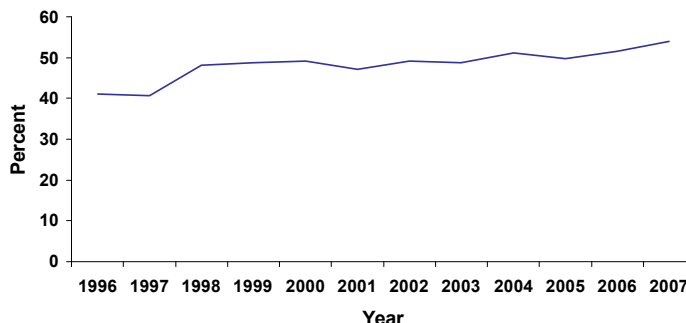
Former Smokers

The quit ratio, defined as the number of former smokers in a given population divided by the number of ever smokers in that same population, is used as an indicator of quitting behavior among people who have ever smoked. In 2007, approximately 1.5 million (54%) adults in Georgia who had ever smoked reported that they were not currently smoking (Figure 15).

The quit ratio was significantly higher among adults ages 55 and older than among adults ages 18-54 (Figure 16).

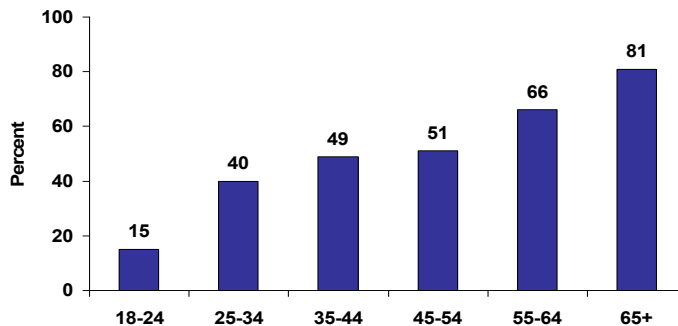
The quit ratio was significantly higher among adults with a college education (73%) than among adults with fewer years of education (Figure 17).

Figure 15. Proportion of former smokers among ever smokers, Georgia, 1996-2007



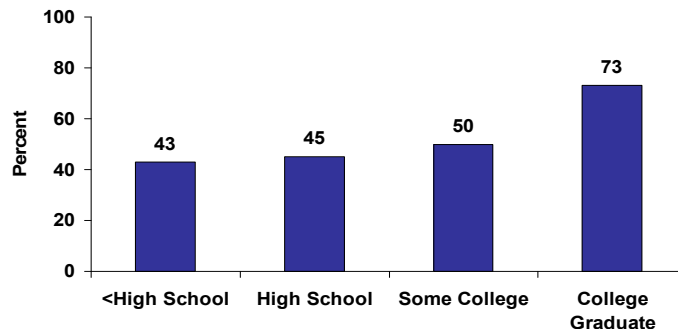
Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

Figure 16. Percentage of adult former smokers among adult ever smokers, by age, Georgia, 2007



Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

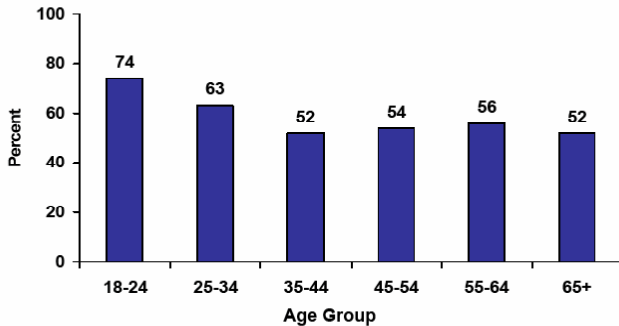
Figure 17. Percentage of adult former smokers among adult ever smokers, by educational attainment, Georgia, 2007



Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

Reducing Tobacco Use in Georgia

Figure 18. Percentage of adult smokers who made a quit attempt*, by age, Georgia, 2007

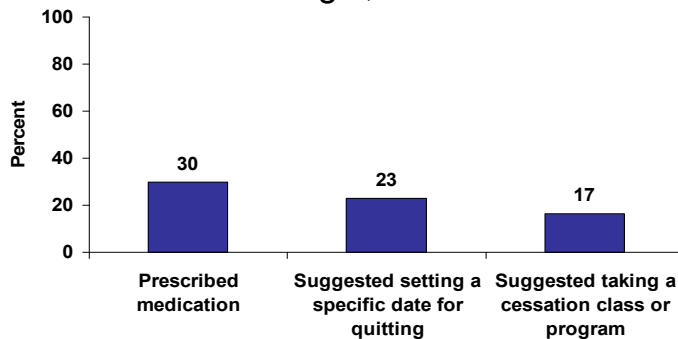


*Adults who stopped smoking for one day or longer during the past 12 months because they were trying to quit smoking.
Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

Smoking Cessation

Approximately 760,000 (57%) adult smokers in Georgia stopped smoking for one day or longer during the past 12 months because they were trying to quit. More females than males made an attempt to quit smoking. Non-Hispanic black smokers were more likely than non-Hispanic white smokers to have stopped smoking for one day or longer in an attempt to quit. More smokers ages 18-24 made a quit attempt in 2007 than their older counterparts (Figure 18).

Figure 19. Percentage of adult smokers whose health care providers advised to quit, by type of assistance given, Georgia, 2004



Source: Georgia Adult Tobacco Survey

Approximately 151,000 (25%) adult smokers who made a quit attempt used medication such as nicotine patch or gum on their last quit attempt. Approximately 673,000 (59%) adult smokers are seriously considering stopping smoking.

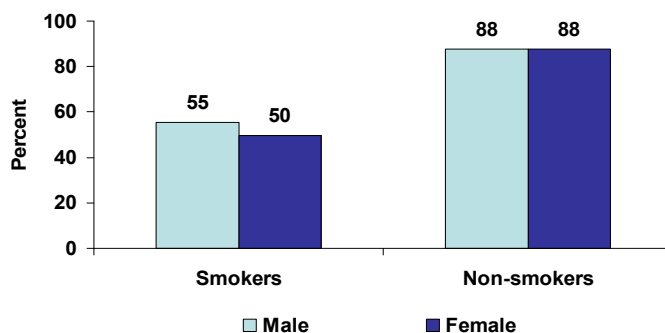
Approximately 485,000 (67%) adult smokers who visited their health care provider in the past year indicated their health care provider advised them not to smoke. Among them, approximately 144,000 (30%) were given a prescription for medication to help them quit and approximately 80,000 (17%) were advised to participate in a smoking cessation class or program (Figure 19).

Policies that restrict or prohibit smoking prevent some people from starting to smoke, help current smokers quit, and reduce exposure to secondhand smoke.

Home and Worksite Policies

Over half (53%) of adult smokers and a majority (88%) of adult non-smokers do not allow smoking anywhere inside their home (Figure 20).

Figure 20. Percentage of adults who live in smoke-free* homes, by smoking status and sex, Georgia, 2006

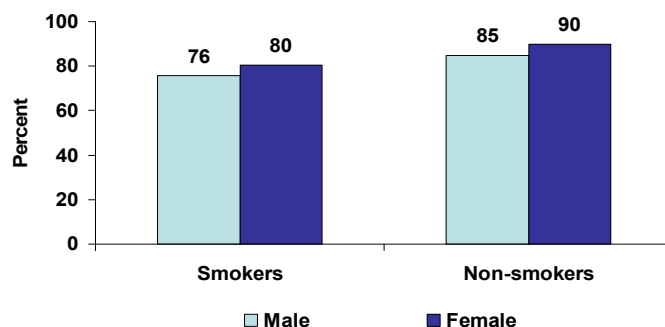


*Smoking is not allowed anywhere inside the home.

Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

Three-fourths (78%) of adult smokers and a majority (87%) of adult non-smokers indicated that their worksite does not allow smoking anywhere in the workplace. Females were more likely than males to indicate their worksite does not allow smoking (Figure 21).

Figure 21 Percentage of adults who work in smoke-free* workplaces, by smoking status and sex, Georgia, 2006



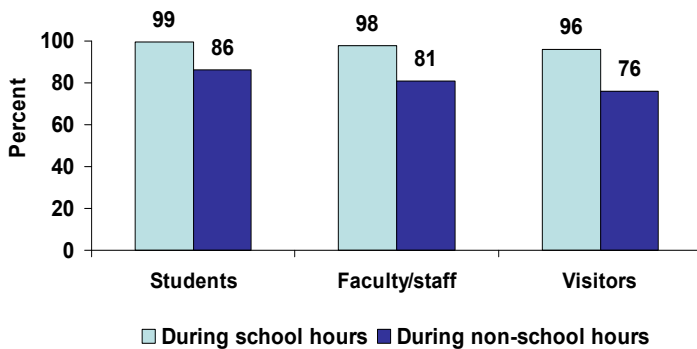
*Worksite's official policy prohibits smoking in all work areas.

Source: Georgia Behavioral Risk Factor Surveillance System (BRFSS)

School Policies

The School Health Profiles (Profiles) was conducted in the spring of 2006 to assess existing health-related school policies and to monitor characteristics of health education programs in public middle and high schools in Georgia.

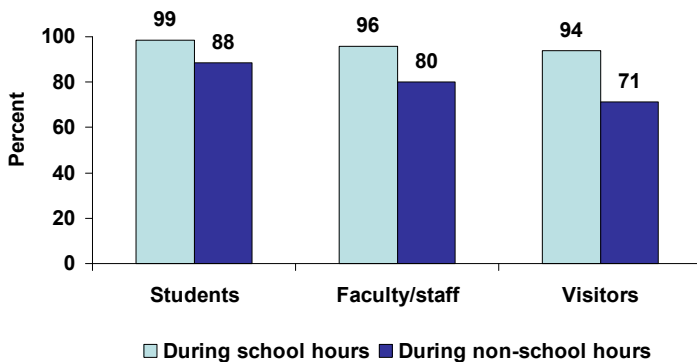
Figure 22a. Percentage of **middle schools** that have a policy prohibiting tobacco use, by group and time, Georgia, 2006



Source: Georgia School Health Profiles Survey

Findings from Profiles indicate that almost all public schools in Georgia (99%) had a policy prohibiting tobacco use (i.e., cigarettes, smokeless tobacco, cigars, and pipes) (Figures 22a, 22b, Appendix Table F). Most schools ($\geq 95\%$) had a policy prohibiting tobacco use by students, faculty, and staff during school hours and in school buildings, grounds and property (Appendix Table G).

Figure 22b. Percentage of **high schools** that have a policy prohibiting tobacco use, by group and time, Georgia, 2006



Source: Georgia School Health Profiles Survey

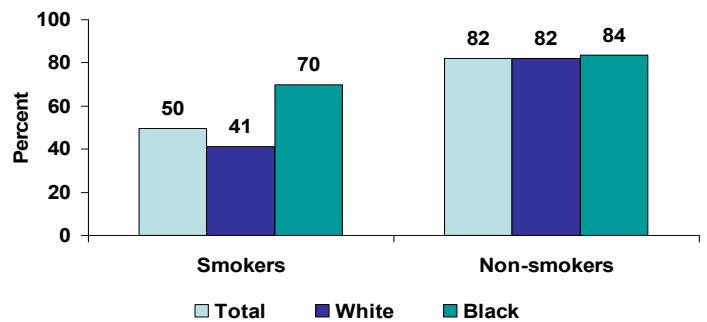
Most middle schools and high schools had procedures to inform students (99% MS, 100% HS) and school faculty and staff (88% MS, 93% HS) about compliance with the school's policy on tobacco use; however, only about two-thirds of middle schools and high schools had procedures to inform visitors about compliance (Appendix Table H).

Support of Smoke-free Laws and Taxation

The Adult Tobacco Survey (ATS) was conducted in 2004 to obtain information about knowledge, attitudes, and beliefs on tobacco use and to assess the level of support of tobacco-related policies among the adult population in Georgia. The survey was conducted prior to the enactment of the Georgia Smokefree Air Act of 2005. It included a question on the level of support of laws making restaurants smoke-free.

Survey findings indicate that 50% of smokers and 82% of non-smokers supported laws making restaurants smoke-free. Black smokers (70%) were more likely than white smokers (41%) to support smoke-free laws (Figure 23).

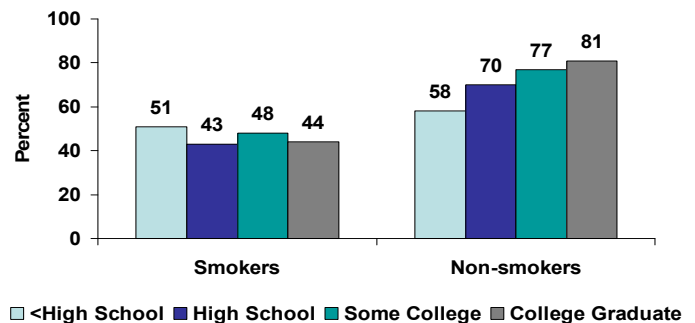
Figure 23. Percentage of adults who support laws making restaurants smoke-free*, by smoking status and race, Georgia, 2004



* Responses were obtained prior to the enactment of the Georgia Smokefree Air Act of 2005
Source: Georgia Adult Tobacco Survey

The ATS also included a question on the level of support of an additional tax on cigarettes if the money raised was used to support tobacco use prevention programs. Survey findings indicate that 46% of smokers and 75% of non-smokers were willing to support an additional tax on cigarettes. The proportion of non-smoking adults who support a cigarette tax increased with increasing educational attainment (Figure 24).

Figure 24. Percentage of adults who support an additional tax on cigarettes, by smoking status and educational attainment, Georgia, 2004



Source: Georgia Adult Tobacco Survey

Summary and Implications for Prevention

Data described in this report provide information about the burden and prevention of tobacco-related illness in Georgia.

- Over 10,000 adult Georgians die from smoking-related illnesses annually, about one death out of every 6.
Implications for prevention:
 - The burden of smoking-related illness in Georgia is high. Health promotion messages educating the public about the dangers of tobacco use should continue to be provided at all levels of patient care.
 - Stopping smoking is beneficial to all smokers, regardless how long they have smoked (8). Tobacco users should be encouraged to kick the habit and referred to cessation professionals for assistance in quitting.
 - Maintaining and supporting statewide comprehensive tobacco use prevention programs is necessary to reduce the burden.

- About 35 infants die every year in Georgia because their mothers smoked during pregnancy.
Implications for prevention:
 - Smoking cessation programs for pregnant women have been shown to be cost effective and to double the rates for quitting, thus reducing the prevalence of smoking during pregnancy (9).
 - Although many women voluntarily quit smoking during pregnancy, about two-thirds of them are smoking again a year after delivery. Smoking cessation and prevention efforts tailored to these women should resume post partum (10, 11).

- Tobacco use costs over \$3 billion in productivity losses alone annually in Georgia.
Implications for prevention:
 - Reducing tobacco use in Georgia saves money for individuals, businesses, and government.

- Approximately one out of five (19%) adult Georgians smoke cigarettes. This percentage has remained stable in recent years. More males than females smoke cigarettes. Younger adults and adults with fewer years of education are more likely to smoke than older adults or adults with more years of education.
Implications for prevention:
 - Although smoking is prevalent among all segments of society, some groups are more likely to smoke than others. Smoking cessation and prevention activities should include efforts targeting groups in which smoking is most prevalent, namely, males, younger people and people with fewer years of education.
 - Youth and lower income smokers are more likely to quit or smoke less than other smokers because of an increase in the cost of cigarettes. A 10 percent increase in the cost of cigarettes reduces consumption of cigarettes by 3 – 5% (12).

Summary and Implications for Prevention

- 6% of middle school students and 19% of high school students in Georgia smoke cigarettes. Youth usually purchase their cigarettes at gas stations or convenience stores.
Implications for prevention:
 - Establishing comprehensive school policies restricting tobacco use may help reduce the prevalence of smoking among students (13).
 - Strict enforcement of laws and regulations that prohibit the sale of tobacco products to individuals younger than 18 years of age have been shown to hinder youth purchases of tobacco, which may reduce the youth smoking prevalence (14).
- One in three non-smokers in both middle and high schools live with a smoker.
Implications for prevention:
 - Establishing voluntary home rules that prohibit smoking anywhere inside the home protects non-smokers from secondhand smoke exposure while at home.
 - Reducing and eliminating secondhand smoke at home helps minimize complications from asthma and other respiratory conditions in children and adults.
- The prevalence of cigarette smoking among persons with asthma in Georgia is as high as among the general population. Many youth living with asthma are exposed to secondhand smoke.
 - Stopping smoking and avoiding exposure to secondhand smoke help persons with asthma manage their condition by reducing the frequency and severity of asthma attacks.
 - Eliminating indoor smoking in public places helps reduce potential environmental triggers for asthma (3).
- More than half (57%) of current adult smokers tried to quit smoking during the past year.
Implications for prevention:
 - Raising the cost of tobacco products is helpful to many smokers who are trying to stop smoking (12). Low-income smokers may be more likely to benefit than high-income smokers from a higher cost of tobacco.
 - Comprehensive health education interventions or clinical counseling helps smokers quit (15).
- Most public schools (99%) in Georgia have policies limiting or prohibiting tobacco use on the premises. Many employed adults (85%) indicate their worksite has a policy that does not allow smoking at work.
Implications for prevention:
 - Compliance with and enforcement of the state law restricting smoking in public places promote clean livable environments and make public smoking less acceptable.
 - County and local governments should be encouraged to establish strong smoking regulations within their borders. Smoking restrictions in public places (e.g., restaurants) help smokers stop or reduce smoking (12). In areas where smoking restrictions in restaurants and bars have been enacted, the establishments are not financially hurt (16).

Methodology and Limitations

Methodology

This report compiles tobacco-related information from a variety of available data sources in Georgia.

Mortality data

Mortality data in Georgia were obtained from Georgia Vital Statistics. Deaths for 23 conditions for which smoking is a contributing cause were counted and categorized using the ICD-10 codes listed in appendix table A.

Smoking-Attributable Mortality Estimates

The Smoking Attributable Morbidity, Mortality, and Economic Costs (SAMMEC) application developed by the Centers for Disease Control and Prevention (CDC) derives smoking-attributable mortality (SAM) using an attributable-fraction formula (17). The smoking-attributable fractions (SAF) of adult deaths for 19 smoking-related diseases are calculated using sex-specific smoking prevalence and relative risk (RR) of death for adult current and former smokers aged ≥ 35 . Infant mortality SAFs are calculated using maternal smoking prevalence and RR of death for four infant conditions caused by smoking. SAFs for each disease and sex are derived using the following formula:

$$\text{SAF} = [(p_0 + p_1(\text{RR}_1) + p_2(\text{RR}_2)) - 1] / [p_0 + p_1(\text{RR}_1) + p_2(\text{RR}_2)]$$

For adults:

- p_0 = Percentage of adult never smokers in study group
- p_1 = Percentage of adult current smokers in study group
- p_2 = Percentage of adult former smokers in study group
- RR_1 = Relative risk of death for adult current smokers relative to adult never smokers
- RR_2 = Relative risk of death for adult former smokers relative to adult never smokers

For infants:

- p_0 = Percentage of maternal non-smokers in study group
- p_1 = Percentage of maternal smokers in study group
- p_2 = Not applicable
- RR_1 = Relative risk of death for infants of maternal smokers relative to infants of maternal nonsmokers
- RR_2 = Not applicable

Data for former smokers are not included in the SAF for infants because it calculates the impact of maternal smoking during pregnancy.

Prevalence Data

SAMMEC uses separate prevalence data for adult smokers aged 35-64 and ≥ 65 years. The adult smoking prevalence estimates for 2000-2006 were obtained from the Georgia Behavioral Risk Factor Surveillance System (BRFSS). Maternal smoking prevalence estimates for 2000-2006 were obtained from Georgia Vital Statistics as noted on birth certificates.

Relative Risk Data

SAMMEC uses age-adjusted RR estimates for adults aged ≥ 35 years from the second wave of the American Cancer Society's Cancer Prevention Study (CPS-II) six year follow-up. Separate RR data are used for smokers aged 35-64 and ≥ 65 years for ischemic (or coronary) heart disease and cerebrovascular disease (stroke). The RR of death from smoking drops dramatically after age 65 for these two conditions.

Methodology and Limitations

For infants, SAMMEC uses RR estimates for short gestation/low birth weight, Sudden Infant Death Syndrome (SIDS), Respiratory Distress Syndrome (RDS), and other respiratory infant conditions of the newborn from a meta analysis of epidemiological literature conducted by Gavin et al. (2001).

Estimation of the Average Annual Smoking-Attributable Mortality

SAMMEC applies the age- and sex-specific adult SAFs to adult mortality data for each smoking-related disease in the population under study. Mortality data by cause of death in Georgia for 2002-2006 were obtained from Georgia Vital Statistics. The average annual number of deaths is multiplied by the relevant SAF for each smoking-related cause of death.

SAMMEC applies the infant SAF to infant mortality data derived from Georgia Vital Statistics' infant birth and death records. The following formula is used to calculate the SAM:

$$\text{SAM} = \text{Number of deaths} \times \text{SAF}$$

Summing across age categories provides the sex-specific estimate of SAM for each cause of death. The average annual SAM is the sum of smoking-attributable deaths across age groups, and across causes of death for both sexes combined.

Estimation of Average Annual Years of Potential Life Lost

SAMMEC estimates the annual average impact of premature deaths on the life expectancy of adult smokers and infants of maternal smokers. Smoking-attributable years of potential life lost (YPLL) are the sum of years of life lost from premature deaths caused by smoking.

SAMMEC multiplies the number of smoking-attributable adult deaths by the midpoint estimate of remaining life expectancy (RLE) for each smoking-related cause of death, sex, and 5-year age group, while for infants it uses the RLE at birth for both sexes to calculate adult and infant YPLL through the following formula:

$$\text{Smoking-attributable YPLL} = \text{SAM} \times \text{RLE}$$

Age- and sex-specific remaining life expectancy data for the nation for 2002-2006 were obtained from National Center for Health Statistics (18). Average annual YPLL estimates are generated for each disease, major disease category, and all diseases combined, by sex and both sexes combined.

Estimation of Years of Potential Life Lost per Smoker

The average annual smoking-attributable YPLL per smoker was calculated using the following formula:

$$\text{Average annual smoking-attributable YPLL per smoker} = \frac{\text{Average annual smoking-attributable YPLL due to a cause of death}}{\text{SAM due to a cause of death}}$$

Methodology and Limitations

Smoking-attributable Death Estimates at the Health District Level

Proportions were used to calculate estimates of smoking-attributable deaths for each health district. Presuming that the risk of dying from tobacco use in each district was similar to the risk in the state, the smoking-attributable deaths for each disease category were divided by the total number of deaths for each disease category during 2002-2006, and this resulting rate was in turn multiplied times the district's average annual number of deaths for each disease category:

$$\text{District SAM} = \frac{\text{State SAM for each disease category}}{\text{State deaths for each disease category}} \times \text{District deaths for each disease category}$$

Calculation of the Quit Ratio

The quit ratio was calculated to obtain the percent of former adult smokers using the following formula:

$$\text{Quit ratio} = \frac{\text{Former smokers}}{\text{Ever smokers}} \times 100$$

Behavioral Risk Factor Surveillance System

Georgia Behavioral Risk Factor Surveillance System (BRFSS) data were analyzed to obtain the adult smoking prevalence and quit ratios. The BRFSS is a survey conducted annually by the Division of Public Health, Georgia Department of Human Resources. The survey is administered by telephone to the non-institutionalized, civilian population ages 18 years and older in Georgia using standardized methods and questionnaires. The BRFSS covers a wide range of modifiable health behaviors related primarily to chronic diseases, including high blood pressure, obesity, binge drinking, and cigarette smoking. Data have been collected in Georgia annually since 1984.

All estimates presented in this report are based on 2007 survey findings.

Youth Surveys

Data on tobacco use among youth and purchasing ability were obtained from the 2007 Georgia Student Health Survey (Georgia's Youth Risk Behavior Survey). Data on exposure to secondhand smoke were obtained from the 2005 Georgia Youth Tobacco Survey. Both are school-based surveys administered to a representative sample of middle and high school students in the state (19, 20).

Methodology and Limitations

Adult Surveys

Data on support of tobacco-related laws and taxation were obtained from the 2004 Georgia Adult Tobacco Survey. The survey provided data on knowledge, attitudes and beliefs related to tobacco use among the adult Georgian population (21).

School Health Profiles

The School Health Profiles (Profiles) was administered to principals and lead health education teachers of a representative sample of randomly selected public middle and high schools in Georgia. Survey topics included health education requirements, health education coordination, physical education and physical activity programs, tobacco prevention policies, nutrition-related policies and practices, violence prevention, asthma management, and HIV prevention programs and policies (22).

The questionnaires answered by principals assessed school policies prohibiting tobacco use, advertising, sponsorship of school events, actions taken when students are caught smoking, and school referrals to cessation programs for students, faculty, and staff. The teacher questionnaire assessed topics covered in the school's health education curriculum and the grades at which those topics were taught.

Limitations

Smoking-Attributable Morbidity, Mortality, and Economic Costs (SAMMEC)

The methodology used to calculate the smoking-attributable deaths is subject to several limitations. The smoking-attributable mortality figures in this report were estimated by using smoking prevalence and mortality data for 2002-2006, whereas actual smoking-attributable deaths are the result of cumulative exposure to tobacco at higher rates from previous decades. Relative risks were adjusted for the effects of age but not for other potential confounders, although studies have shown that these confounders have little impact on the relative risk of death from smoking. Mortality estimates do not include deaths from smoking cigars or pipes, from using smokeless tobacco, or from secondhand smoke. Smoking-attributable expenditures were derived by applying 1993 smoking-attributable fractions of expenditures to 1998 personal health care expenditure data. Changes in the health care system, economic and demographic characteristics, and risk behaviors between 1993 and 1998 may have influenced the smoking-attributable fractions. Productivity loss estimates do not include the value of lost work time from smoking-related illness, absenteeism, excess work breaks, and secondhand smoke-related disease morbidity and mortality. The medical costs of maternal smoking may be underestimated because the future medical costs of children born to women who smoked during pregnancy and the costs of treating conditions related to secondhand smoke are not taken into account. SAMMEC does not provide smoking-attributed morbidity estimates.

Youth Risk Behavior Survey (YRBS) and Youth Tobacco Survey (YTS)

Youth prevalence data apply only to middle school and high school students enrolled in Georgia's public education system, and, therefore, are not representative of all persons in this age group. All data are self-reported and, for certain behaviors, the reported estimates may be subject to recall bias.

Methodology and Limitations

PRAMS

PRAMS data are representative only of pregnant women who delivered live-born infants. Smoking estimates during pregnancy are based on self-reported data and may be subject to recall bias. Because PRAMS does not collect data on alcohol or tobacco use during the first or second trimesters of pregnancy, the prevalence of use of these substances in early pregnancy could be underestimated. PRAMS may not accurately obtain the prevalence of folic acid intake in the form of multivitamin use. The prevalence of unintended pregnancies is probably underestimated because PRAMS reports only unintended pregnancies resulting in a live birth.

Behavioral Risk Factor Surveillance System (BRFSS) and Adult Tobacco Survey (ATS)

Both BRFSS and ATS are telephone-based surveys. The survey sample includes only persons residing in households with telephone land lines. It excludes persons living in institutions such as assisted living facilities and the military. Prevalence data may not be representative of all adults in Georgia. All data are self-reported and, for certain behaviors, the reported estimates may be subject to recall bias.

Profiles

Policy data from the School Health Profiles are self-reported by school principals and lead health education teachers and may be subject to bias. Private and alternative schools are not included in the survey sample.

Glossary

Acute myeloid leukemia: a cancer of the blood and bone marrow that affects the normal development of white blood cells necessary for fighting off infections and that can spread to other parts of the body.

Aortic aneurysm: a bulge in the wall of the aorta (a large blood vessel that carries blood from the heart to the rest of the body) that has become stretched out and thin, and in which blood clots may form.

Asthma: a chronic inflammatory disorder of the airways characterized by periodic attacks of wheezing, shortness of breath, chest tightness, and coughing.

Atherosclerosis: thickening and hardening of artery walls.

Bronchitis, chronic: a form of chronic obstructive pulmonary disease characterized by persistent cough that brings up mucus from the lungs.

Cancer: a group of diseases characterized by uncontrolled growth and spread of abnormal cells that can result in death.

Cardiovascular disease: includes a wide variety of diseases of the heart and blood vessels, such as ischemic heart disease, stroke, congestive heart failure, hypertensive disease, and atherosclerosis.

Cerebrovascular disease: also known as stroke, occurs when a blood vessel (artery) that supplies blood to the brain bursts or becomes blocked by a blood clot resulting in damage and death of nerve cells in the affected area of the brain.

Chronic Obstructive Pulmonary Disease (COPD): a group of chronic lung conditions characterized by obstruction of the airways in the lungs, which traps air in the lungs, making it difficult for an individual to breathe in and out normally.

Current adult smokers: adults who have smoked at least 100 cigarettes in their lifetime and now smoke every day or some days.

Current youth smokers: middle and high school students who have smoked cigarettes on one or more days in the 30 days preceding the survey.

Emphysema: a form of chronic obstructive pulmonary disease characterized by irreversible damage to the air sacs in the lungs. The air sacs are unable to completely deflate and are therefore unable to fill with fresh air to ensure adequate oxygen supply to the body.

Ever adult smokers: adults who have smoked 100 cigarettes in their lifetime.

Ever youth smokers: middle and high school students who have ever tried cigarette smoking, even one or two puffs.

Former adult smokers: adults who have smoked 100 or more cigarettes in their lifetime but who do not currently smoke.

Glossary

Former youth smokers: middle and high school students who have smoked 100 or more cigarettes in their lifetime but who have not smoked in the last 30 days.

Hypertension: also known as high blood pressure, occurs when the systolic pressure is consistently over 140 mmHg, or the diastolic blood pressure is consistently over 90 mmHg.

Influenza: a viral illness that comes on suddenly, causing fever, shaking chills, body aches, headache, and fatigue, which usually last for 3 to 4 days, followed by a dry cough, runny nose, and sore or scratchy throat for another week or so.

International Classification of Diseases, 10th Revision (ICD-10): an alphanumeric coding scheme developed by the World Health Organization, used for mortality data since 1999, that arranges diseases and injuries into groups according to established criteria. It is used to improve comparability of cause of death statistics reported by different governmental entities.

Ischemic heart disease: also known as coronary heart disease, is the term given to heart problems caused by a narrowing of the coronary arteries and includes heart attacks.

Low birth weight: a live birth with a weight of less than 2500 grams (5lbs. 8oz.).

Non-smokers, adults: persons who have not smoked 100 cigarettes in their lifetime.

Non-smokers, youth: middle and high school students who have not smoked cigarettes on one or more days in the 30 days preceding the survey.

Prevalence: an estimate of how many people in a defined population have a specific disease at a given time.

Pneumonia: a bacterial or viral infection of the lungs that may cause fevers, coughing, chills, shallow breathing, chest pains, rapid heartbeat, and weakness or fatigue.

Quit ratio: the percentage of ever smokers who have quit.

Respiratory distress syndrome: respiratory difficulty in newborn infants, common in babies born prematurely.

Secondhand smoke: tobacco smoke that is generated from the burning end of a cigarette, pipe or cigar and the smoke that is exhaled by smokers of these tobacco products. It is also known as environmental tobacco smoke (ETS).

Short gestation: a fetus born before 37 weeks after conception.

Sudden infant death syndrome: the sudden and unexpected death of a baby with no known illnesses, typically affecting sleeping infants between the ages of two weeks to six months.

Years of potential life lost: a measure of the impact of premature mortality on a population, calculated as the sum of the differences between some predetermined minimum or desired life span and the age of death for individuals who died earlier than that predetermined age.

References

1. US Public Health Service. *Smoking and Health Report of the Advisory Committee to the Surgeon General of the Public Health Service*. US Department of Health, Education and Welfare, Public Health Service, Centers for Disease Control. PHS Publication No. 1103, 1964.
2. Centers for Disease Control and Prevention. Smoking and Tobacco Use. http://www.cdc.gov/tobacco/basic_information/index.htm
3. U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.
4. U.S. Department of Health and Human Services. *Reducing the Health Consequences of Smoking: 25 Years of Progress. A Report of the Surgeon General*. US Department of Health and Human Services, Public Health Service, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. DHHS Publication No. (CDC) 89-8411, Prepublication version, January 11, 1989.
5. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System (BRFSS), Nationwide Prevalence Data, 2007. <http://www.apps.nccd.cdc.gov/brfss/index.asp>
6. Centers for Disease Control and Prevention. Tobacco Use Among Adults – United States, 2005. MMWR 2006; 55(42);1145-1148.
7. Centers for Disease Control and Prevention. Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses – United States, 1997-2001. MMWR 2005; 54(25);625-628.
8. U.S. Department of Health and Human Services. *The Health Benefits of Smoking Cessation*. US Department of Health and Human Services, Public Health Service, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. DHHS Publication No. (CDC) 90-8416. 1990.
9. U.S. Department of Health and Human Services. *Women and Smoking. A Report of the Surgeon General*. Rockville (MD): US Department of Health and Human Services, Public Health Service, Office of the Surgeon General, 2001.
10. Wall MA, Severson HH, Andrews JA, Lichtenstein E, Zoref L. *Pediatric Office-based Smoking Intervention: Impact on Maternal Smoking and Relapse*. Pediatrics 1995; 96(4): 622-628.
11. Mullen PD, DiClemente CC, Bartholomew LK. *Theory and Context and Project PANDA: a Program to Help Post-partum Women Stay Off Cigarettes*. In Bartholomew LK, Parcel GS, Kok G, Gottlieb H. *Designing Theory- and Evidence-based Health Promotion Programs*. Mountain View, California: Mayfield Publishers, 2000; 453-477.
12. US Department of Health and Human Services. *Reducing Tobacco Use: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.

References

13. Moore L, Roberts C, Tudor-Smith C. *School smoking policies and smoking prevalence among adolescents: multilevel analysis of cross-sectional data from Wales*. *Tobacco Control* 2001;10:117-123 (Summer).
14. National Cancer Institute. *State and Local Legislative Action to Reduce Tobacco Use. Smoking and Tobacco Control Monograph No. 11*. Bethesda, MD. US Department of Health and Human Services, National Institutes of Health, National Cancer Institute, NIH Pub. No. 00-4804, 2000.
15. Centers for Disease Control and Prevention. *Strategies for Reducing Exposure to Environmental Tobacco Smoke, Increasing Tobacco-Use Cessation, and Reducing Initiation in Communities and Health-Care Systems*. *MMWR* 2000;49:RR-12.
16. Bartosch WJ, Pope GC. *The Economic Effect of Smoke-free Restaurant Policies on Restaurant Businesses in Massachusetts*. *Journal of the Public Health Management Practice*. 1999; 5(1): 53-62.
17. Centers for Disease Control and Prevention. *Smoking-attributable mortality, morbidity, and economic costs (SAMMEC): adult SAMMEC and maternal and child health (MCH) SAMMEC application, 2002*. <http://apps.nccd.cdc.gov/sammeec/>
18. National Center for Health Statistics. *United States Life Tables, 2003*. National Vital Statistics reports; vol. 54 no. 14. Hyattsville, MD, Revised March 28, 2007.
19. Kanny D, Horan J, Figueroa A. **2007 Georgia Student Health Survey Report**. Georgia Department of Human Resources, Division of Public Health, July 2008. Publication Number: DPH08/190HW. http://health.state.ga.us/pdfs/epi/cdiee/2003-2005-2007_GaStudentHealthSurveyReport.pdf.
20. Kanny D and Figueroa A. **2005 Georgia Youth Tobacco Survey Report**. Georgia Department of Human Resources, Division of Public Health, September 2006. Publication Number: DPH06/143HW. <http://health.state.ga.us/pdfs/epi/cdiee/2005%20Georgia%20Youth%20Tobacco%20Survey%20Report.pdf>.
21. Figueroa A and Kanny D. **2004 Georgia Adult Tobacco Survey Report**. Georgia Department of Human Resources, Division of Public Health, Chronic Disease, Injury, and Environmental Epidemiology Section, October 2006. Publication Number: DPH07/005HW. <http://health.state.ga.us/pdfs/epi/cdiee/Adult%20Tobacco%20Survey%20Report,%20Georgia,%202004.pdf>.
22. Falb M, Figueroa A, Kanny D. **2006 Georgia School Health Profiles Report**. Georgia Department of Human Resources, Division of Public Health, Chronic Disease, Injury, and Environmental Epidemiology Section, March 2007. Publication Number: DPH07/027HW. <http://health.state.ga.us/pdfs/epi/cdiee/2006GASchoolHealthProfiles.pdf>.

Appendices | Table A

Table A. Average annual smoking-attributable mortality (SAM) and years of potential life lost (YPLL) by cause of death and sex, adults 35 and older and infants one year and younger, Georgia, 2002 - 2006

Disease Category	ICD-10*	Male			Female			Both sexes		
		Deaths	SAM	YPLL	Deaths	SAM	YPLL	Deaths	SAM	YPLL
Neoplasms										
Lip, Oral cavity, Pharynx	C00-C14	144	106	2,112	69	32	614	213	138	2,726
Esophagus	C15	248	178	3,386	79	45	881	327	223	4,267
Stomach	C16	161	44	778	119	13	241	280	57	1,019
Pancreas	C25	377	83	1,523	387	87	1,518	764	170	3,040
Larynx	C32	83	69	1,267	22	16	334	105	84	1,601
Trachea, Lung, Bronchus	C33-C34	2,610	2,292	38,556	1,672	1,172	22,190	4,282	3,464	60,746
Cervix	C53	0	0	0	114	13	373	114	13	373
Kidney and Renal Pelvis	C64-C65	185	71	1,279	118	6	140	303	77	1,419
Bladder	C67	177	83	1,091	89	24	299	266	107	1,391
Acute myeloid leukemia	C92.0	87	20	333	75	7	140	162	27	473
Total Neoplasms		4,072	2,945	50,325	2,744	1,415	26,731	6,816	4,360	77,055
Cardiovascular Diseases:										
Ischemic Heart Disease										
Aged 35-64 years	I20-I25	1,661	648	17,308	626	206	6,094	2,287	854	23,401
Aged 65+ years		3,219	483	4,767	3,495	350	3,175	6,714	833	7,942
Other Heart Disease	I00-I09, I26-I51	2,905	536	8,315	3,634	303	4,078	6,539	840	12,393
Cerebrovascular Disease										
Aged 35-64 years	I60-I69	412	152	4,096	341	137	4,278	753	290	8,374
Aged 65+ years		1,169	98	910	2,081	108	953	3,250	206	1,863
Atherosclerosis	I70	108	29	373	174	14	140	282	43	513
Aortic Aneurysm	I71	199	128	2,078	126	61	868	325	190	2,946
Other diseases of circulatory system	I72-I78	109	15	240	147	20	242	256	35	482
Total Cardiovascular Diseases		9,782	2,091	38,088	10,624	1,198	19,827	20,406	3,289	57,915
Respiratory Diseases:										
Pneumonia, Influenza	J10-J18	677	152	1,780	897	116	1,337	1,574	269	3,116
Bronchitis, Emphysema	J40-J43	238	216	2,913	215	172	2,622	453	388	5,535
Chronic Airway Obstruction	J44	1,304	1,059	13,261	1,346	994	13,702	2,650	2,053	26,963
Total Respiratory Diseases		2,219	1,427	17,954	2,458	1,283	17,661	4,677	2,710	35,615
Total Adult[§]		16,073	6,463	106,366	15,826	3,896	64,219	31,899	10,359	170,585
Perinatal Conditions:										
Short Gestation / Low Birth Weight	P07	125	10	713	101	8	616	226	17	1,329
Respiratory Distress Syndrome	P22	26	1	56	23	1	53	49	1	110
Respiratory Conditions - Newborn	P23-P28	30	1	88	16	1	50	46	2	138
Sudden Infant Death Syndrome	R95	73	8	621	57	6	519	130	15	1,139
Total Perinatal Conditions[§]		254	20	1,477	197	15	1,239	451	35	2,716
Overall Total[§]		16,327	6,483	107,844	16,023	3,912	65,458	32,350	10,394	173,301

* International Classification of Diseases, Tenth Revision used since 1999 for specifying cause of death.

§ Total may not add up exactly because of rounding to nearest integer.

Mortality data source: Georgia Vital Statistics.

Appendices | Table B & C

Table B. Average annual smoking-attributable mortality (SAM),[†] by cause of death and public health district, adults ages 35 and older Georgia, 2002-2006

	Cancer		Cardiovascular Disease		Respiratory Disease		Total smoking-related diseases	
	Deaths	SAM	Deaths	SAM	Deaths	SAM	Deaths	SAM
Georgia	6,186	4,360	20,406	3,289	4,677	2,710	31,899	10,359
Northwest Health District (Rome)	570	365	1,644	265	403	234	2,617	864
North Georgia Health District (Dalton)	311	199	836	135	228	132	1,375	466
North Health District (Gainesville)	452	289	1,312	211	349	202	2,113	702
Cobb/Douglas Health District	397	254	1,236	199	277	161	1,910	614
Fulton Health District	528	338	1,505	243	315	183	2,348	764
Clayton County Health District (Morrow)	145	93	374	60	84	49	603	202
East Metro Health District (Lawrenceville)	423	271	1,058	171	259	150	1,740	592
DeKalb Health District	386	247	1,028	166	205	119	1,619	532
LaGrange Health District	561	359	1,793	289	412	239	2,766	887
South Central Health District (Dublin)	141	90	574	93	110	64	825	247
North Central Health District (Macon)	462	296	1,391	224	316	183	2,169	703
East Central Health District (Augusta)	423	271	1,240	200	292	169	1,955	640
West Central Health District (Columbus)	343	219	1,169	188	246	143	1,758	550
South Health District (Valdosta)	216	138	688	111	178	103	1,082	352
Southwest Health District (Albany)	377	241	1,139	184	232	134	1,748	559
Southeast Health District (Waycross)	440	281	1,311	211	290	168	2,041	660
Coastal Health District (Savannah)	327	209	1,066	172	261	151	1,654	532
Northeast Health District (Athens)	314	201	1,040	168	216	125	1,570	494

[†] SAM is an average annual total that does not include burn or secondhand smoke deaths.

Table C. Percent of middle school and high school students who smoked a cigarette before ages 11 and 13*, by grade and sex, Georgia, 2007

Grade	Males		Females		Total	
	%	95% CI	%	95% CI	%	95% CI
Smoked before age 11	7.0	(5.3-9.1)	5.2	(3.6-7.4)	6.1	(4.9-7.6)
6th	8.4	(5.5-12.7)	3.1	(1.7-5.4)	5.8	(3.8-8.8)
7th	4.0	(2.2-7.3)	6.2	(3.5-10.9)	5.1	(3.3-7.7)
8th	8.4	(5.8-11.9)	6.2	(3.5-10.8)	7.3	(5.3-10.0)
Smoked before age 13	18.2	(15.7-21.0)	10.7	(8.8-13.0)	14.5	(12.6-16.7)
9th	22.1	(18.1-26.7)	9.9	(7.2-13.4)	16.4	(13.5-19.7)
10th	20.7	(14.0-29.6)	10.3	(7.0-14.8)	15.7	(12.5-19.6)
11th	13.1	(9.9-17.2)	14.3	(9.9-20.2)	13.7	(11.0-17.0)
12th	12.3	(7.9-18.6)	8.1	(5.0-12.8)	10.1	(6.8-14.7)

*Ages of initiation are defined as 11 years for middle school students and 13 years for high school students.

Appendices | Table D

Table D. Percent of adult smokers by public health district, Georgia, 2000-2007

District	2000-2003	2004-2007
	% 95% CI	% 95% CI
Northwest Health District (Rome)	31.7 (28.3-35.3)	27.2 (24.0-30.6)
North Georgia Health District (Dalton)	29.9 (26.4-33.7)	24.4 (20.9-28.2)
North Health District (Gainesville)	24.0 (20.9-27.3)	21.6 (19.1-24.3)
Cobb/Douglas Health District	19.5 (16.5-22.8)	14.9 (12.6-17.7)
Fulton Health District	18.6 (15.7-21.8)	15.3 (12.6-18.5)
Clayton County Health District (Morrow)	26.8 (23.0-30.9)	23.4 (18.5-29.1)
East Metro Health District (Lawrenceville)	24.5 (21.3-27.9)	16.5 (13.8-19.6)
DeKalb Health District	18.9 (15.7-22.5)	13.7 (11.1-16.9)
LaGrange Health District	23.7 (20.7-27.0)	20.2 (17.3-23.5)
South Central Health District (Dublin)	22.1 (19.3-25.3)	21.9 (19.3-24.9)
North Central Health District (Macon)	27.8 (24.5-31.5)	24.9 (21.7-28.5)
East Central Health District (Augusta)	25.2 (22.4-28.3)	22.9 (20.3-25.7)
West Central Health District (Columbus)	22.7 (19.6-26.1)	22.8 (19.7-26.2)
South Health District (Valdosta)	25.6 (22.1-29.5)	25.4 (22.2-29.0)
Southwest Health District (Albany)	24.3 (21.3-27.5)	21.7 (19.1-24.7)
Coastal Health District (Savannah)	26.6 (24.3-29.1)	24.8 (22.2-27.6)
Southeast Health District (Waycross)	27.8 (24.7-31.1)	25.8 (23.1-28.7)
Northeast Health District (Athens)	24.5 (21.4-27.8)	20.2 (17.4-23.4)

Appendices | Table E & F

Table E. Percentage of women who smoked during the last three months of pregnancy by race, age, and educational attainment, Georgia, 2006

		% Smokers	95% CI
Total		9.5	(8.2-10.8)
Race			
	White	13.9	(11.7-16.2)
	Black	5.7	(4.3-7.1)
Age			
	0-17	9.1	(3.4-14.8)
	18-24	12.0	(9.6-14.4)
	25-34	7.9	(6.2-9.6)
	35-44	8.9	(5.5-12.4)
	45+	0.0	
Education			
	<High school	23.4	(17.9-28.8)
	High school/GED	10.6	(8.2-12.9)
	Some college	6.7	(4.4-8.9)
	College graduate	1.8	(0.6-3.0)
Household income			
	<\$15,000	14.8	(12.1-17.6)
	\$15,000 - \$24,999	12.0	(7.9-16.1)
	\$25,000-\$49,999	7.1	(4.3-10.0)
	\$50,000+	3.5	(1.8- 5.2)

Table F. Percentage of schools that had a policy prohibiting tobacco use by tobacco product, group, and school type, Georgia, 2006

	Middle School		High School	
	%	95% CI	%	95% CI
Had a policy prohibiting cigarettes				
Students	98.2	(96.2-100)	97.7	(95.1-100)
Faculty/staff	98.2	(96.1-100)	94.8	(90.9-98.7)
Visitors	93.9	(90.4-97.3)	90.1	(85.2-95.1)
Had a policy prohibiting smokeless				
Students	97.6	(95.2-99.9)	96.9	(93.8-100)
Faculty/staff	96.3	(93.4-99.2)	94.8	(90.8-98.7)
Visitors	88.9	(84.4-93.3)	87.0	(81.1-92.8)
Had a policy prohibiting cigars				
Students	98.2	(96.2-100)	97.7	(95.1-100)
Faculty/staff	98.2	(96.1-100)	95.6	(92.1-99.2)
Visitors	94.5	(91.2-97.7)	90.1	(85.2-95.1)
Had a policy prohibiting pipes				
Students	98.2	(96.2-100)	97.7	(95.1-100)
Faculty/staff	98.2	(96.1-100)	95.6	(92.1-99.2)
Visitors	94.5	(91.2-97.7)	89.4	(84.2-94.5)

Appendices | Table G & H

Table G. Percentage of schools that had a policy prohibiting tobacco use by coverage, group, and school type, Georgia, 2006

	Middle School		High School	
	%	95% CI	%	95% CI
Policy prohibits tobacco use during school hours				
Students	99.4	(98.2-100)	98.5	(96.4-100)
Faculty/staff	98.0	(95.8-100)	95.6	(92.0-99.1)
Visitors	96.2	(94.3-98.0)	93.9	(90.4-97.5)
Policy prohibits tobacco use during non-school hours				
Students	86.1	(80.5-91.6)	88.4	(82.3-94.5)
Faculty/staff	81.0	(74.9-87.1)	79.9	(72.4-87.5)
Visitors	76.2	(69.5-82.9)	71.3	(62.3-80.2)
Policy prohibits tobacco use in school buildings				
Students	98.8	(97.2-100)	98.3	(96.0-100)
Faculty/staff	98.8	(97.2-100)	97.6	(94.9-100)
Visitors	96.3	(93.4-99.3)	96.0	(92.5-99.5)
Policy prohibits tobacco use outside on school grounds*				
Students	98.8	(97.2-100)	98.3	(96.0-100)
Faculty/staff	95.6	(92.3-98.9)	93.9	(89.7-98.2)
Visitors	86.3	(80.8-91.8)	87.7	(82.0-99.3)
Policy prohibits tobacco use on school buses				
Students	98.8	(97.2-100)	98.3	(96.0-100)
Faculty/staff	98.8	(97.2-100)	97.6	(94.9-100)
Visitors	95.0	(91.5-98.5)	94.6	(90.5-98.6)

* School grounds include school parking lots and playing fields.

Table H. Percentage of schools that had procedures to inform specific groups about compliance with their tobacco use policy by group and school type, Georgia, 2006

	Middle School		High School	
	%	95% CI	%	95% CI
Had procedures to inform students	98.7	(96.8-100)	100	
Had procedures to inform faculty/staff	87.9	(83.3-92.5)	93.2	(88.7-97.7)
Had procedures to inform visitors	69.3	(62.4-76.2)	64.9	(56.6-73.2)

Appendices | Table I

Table I. Tobacco-related Healthy People 2010 objectives and current status in Georgia

Obj. #	Objective	HP 2010 Target	Status in Georgia
27-1a	Reduce the proportion of adults who currently smoke cigarettes.	12%	19%
27-2a	Reduce the proportion of students in grades 9 through 12 who are current users of any tobacco products.	21%	26%
27-2b	Reduce the proportion of students in grades 9 through 12 who are current cigarette smokers.	16%	19%
27-2c	Reduce the proportion of students in grades 9 through 12 who are current smokeless tobacco users.	1%	8%
27-2d	Reduce the proportion of students in grades 9 through 12 who are current cigar smokers.	8%	16%
27-3	Reduce the proportion of children and adolescents who begin using tobacco products.	In development	N/A
27-4a	Increase the average age of first use of tobacco products by adolescents and young adults	14 years	13-14 years
27-4b	Increase the average age of first use of tobacco products by young adults aged 18 to 25 years.	17%	Data not collected
27-5	Increase the proportion of adult smokers who have attempted to quit smoking.	75%	56%
27-6	Increase the proportion of pregnant women who quit smoking during the first trimester of their pregnancy.	30%	Data not collected
27-7	Increase the proportion of smokers in grades 9 through 12 who have attempted to quit smoking.	84%	58%
27-8	Increase in insurance coverage of evidence-based treatment for nicotine dependency.	100%	Data not collected
27-9	Reduce the proportion of children 6 years and under who are regularly exposed to tobacco smoke at home.	10%	Data not collected
27-10	Reduce the proportion of non-smokers aged 4 years and older who are exposed to environmental tobacco smoke.	45%	Data not collected
27-11	Increase the proportion of schools that are smoke-free and tobacco-free, to include all school facilities, property, vehicles, and school events.	100%	20%

27-12	Increase the proportion of worksites with formal policies prohibiting or limiting smoking to separately ventilated areas.	100%	Data not collected
27-13	Increase or establish laws on smoke-free indoor air that prohibit or limit smoking to separately ventilated areas in public places and worksites.	51%	Data not collected
27-14	Increase the number of States and Territories that reduce the proportion of illegal sales of tobacco products to minors through the enforcement of laws prohibiting the sale of tobacco products to minors.	50 States, DC, and all US territories	Met
27-15	Increase the number of States and the District of Columbia that suspend or revoke State retail licenses for violations of laws prohibiting the sale of tobacco products to minors.	50 States and DC	Met
27-16	Eliminate tobacco advertising and promotions that influence adolescents and young adults	In development	N/A
27-17	Increase the proportion of students in 8th, 10th and 12th grades who disapprove smoking.	95%	Data not collected
27-18	Increase the number of Tribes, Territories and States and the District of Columbia with comprehensive, evidence-based tobacco control programs.	In development	Met
27-19	Eliminate the number of States with laws that preempt stronger tobacco control laws.	No States	Met
27-20	Reduce the toxicity of tobacco products by establishing a regulatory structure to monitor toxicity.	In development	N/A
27-21a	Increase the average Federal and State tax on cigarettes.	\$2	\$0.37-Georgia



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