

# Georgia Tobacco Use Surveillance Report

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2015

# Acknowledgements

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# Executive Summary

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

## Mortality

- Over 10,000 adult Georgians die from smoking-related illnesses annually.
  - About 4,500 die from cancer
  - About 3,100 die from respiratory diseases
  - About 2,750 die from cardiovascular diseases
- About 13 infants die every year because their mothers smoked during pregnancy.

## Economic Costs

- \$3.2 billion in annual lost productivity costs are attributed to smoking among adults in Georgia.
- \$1.8 billion in annual healthcare costs are attributed to smoking among adults in Georgia.

## Tobacco Use in Georgia

- Approximately 14,000 (4%) middle school students and 53,000 (13%) high school students in Georgia smoke cigarettes.
- Approximately 34,000 (67%) high school smokers buy their cigarettes at gas stations or convenience stores.
- Approximately 1.35 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.
- Four percent (4%; 5,500) of pregnant women in Georgia smoked during the last three months of their pregnancy.

## Secondhand Smoke and Asthma

- Approximately 38,000 (13%) middle school students, 50,400 (14%) high school students, and 630,000 (8%) adults in Georgia have asthma.
- Among persons with asthma, approximately 6,100 (7%) middle school students, 15,000 (15%) high school students, and 140,000 (23%) adults smoke cigarettes.

## **Executive Summary (continued)**

- Approximately 1.4 million (69%) adult smokers want to quit smoking cigarettes for good.
- Approximately 645,000 (49%) adult smokers who visited their health care provider in the past year indicated that 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 172,000 (48%) of them were given a prescription for medication to help them quit, and approximately 167,000 (47%) of them were advised to contact a telephone quitline, smoking cessation class or program, or one-on-one counseling.

### **Policies**

- A majority (88%) of adults in Georgia do not allow smoking anywhere inside their homes.
- A majority (94%) of employed adults in Georgia indicate their worksite has a policy that prohibits smoking at work.
- Almost all public middle (96%) and high schools (99%) in Georgia have a policy prohibiting tobacco use.
- Most middle schools and high schools have procedures to inform students (96% MS, 99% HS), faculty/staff (96% MS, 99% HS), and visitors (94% MS, 96% HS) of the actions taken when someone is non-compliant with the school policies prohibiting tobacco use.
- 71% of adult smokers and the majority (84%) of adult non-smokers support laws making indoor restaurants smoke-free.
- More than half (63%) of adult smokers and three-fourths (76%) of adult non-smokers would support an additional tax on cigarettes.

### **Tobacco/Nicotine Poisonings**

- From April 15, 2009- April 15, 2015, there were a total of 1,513 calls made to the Georgia Poison Control Center about exposures or poisonings from tobacco- or nicotine-containing products. The number of calls about exposures or poisonings from products containing tobacco/nicotine has been steadily increasing since 2009.
- More than half (56%) of the calls were about tobacco/nicotine poisonings from cigarette use, followed by all other types of nicotine products, including nicotine-containing cigars and chewing tobacco (31%), e-cigarettes (11%), and the category including cigars, Nicoderm, Nicorettes, hookahs (2%).

### **Nicotine Poisoning from E-cigarettes**

- There was a sharp increase in the number of nicotine poisoning calls to the Georgia Poison Control Center due to e-cigarettes from 21 calls in 2013 to 86 calls in 2014.
- More Georgia males (54%) than females (46%) were involved in nicotine poisoning exposures from e-cigarettes in 2014.

# 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).

<b>Table 1. Causes of death for which tobacco use is a contributing cause</b>			
<b>Causes of death</b>			
<b>Cancer</b>	<b>Cardiovascular diseases</b>	<b>Respiratory diseases</b>	<b>Perinatal conditions</b>
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 50 years, the nationwide percentage of smokers has declined, falling from 40% in 1965 to 19% in 2013 (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.

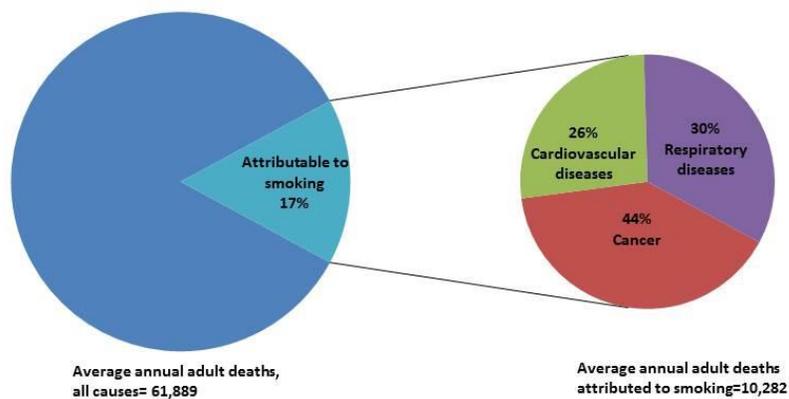
The 2015 Georgia Tobacco Use Surveillance Report presents data on smoking-related deaths and costs, tobacco use prevalence, and policies affecting tobacco use. It also indicates the status of the tobacco use goals for Georgia as they relate to the Healthy People 2020 Objectives (Appendix Table G). Data from this report will be used by the Georgia Department of Public Health 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 the leading cause of preventable illness and death in Georgia. From 2008 to 2013, an estimated annual average of 10,350 deaths, (-or 17%) of all annual deaths (61,889) among Georgians 35 years and older were attributed to cigarette smoking. Of these estimated deaths, 4,492 (44%) were due to cancer, 3,077 (30%) were due to respiratory diseases and 2,713 (26%) were due to cardiovascular diseases (Figure 1). The most common causes of death attributed to smoking in Georgia were lung cancer (3,503 deaths), chronic obstructive pulmonary disease (COPD) (2,569 deaths), ischemic heart disease (1,293 deaths), and other heart disease (818 deaths).

Figure 1. Average annual smoking-attributable deaths among adults ages 35 and older, Georgia, 2008-2013\*



Sources: Georgia Vital Statistics; CDC SAMMEC

\* Because of data quality issues, 2009 mortality data are not used for analysis.

From 2008 to 2013, cigarette smoking caused an estimated annual average of 6,320 deaths among adult males and 3,962 deaths among adult females in Georgia (Appendix Table A).

From 2008 to 2012, cigarette smoking during pregnancy resulted in an estimated annual average of 6 infant deaths due to short gestation or low birth weight and 6 infant deaths due to sudden infant death syndrome (SIDS) (Appendix Table A).

From 2008 to 2013, the average annual estimates of adult deaths attributed to smoking for each of the 18 Public Health Districts in Georgia ranged from 191 to 899 deaths (Appendix Table B).

## 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 2008 to 2013 in Georgia, an average annual estimated 181,695 years of potential life lost were attributed to smoking. Adult male and female smokers lost an average of 17.6 years per person of potential life attributed to smoking. Adults who died from cancer, particularly lung cancer attributed to smoking, lost an average of 18.2 years of potential life. Adults who died from cardiovascular diseases and respiratory diseases attributed to smoking lost an average of 20.5 years and 14.0 years, respectively (Table 2).

**Table 2. Average annual years of potential life lost (YPLL), number of deaths, and average YPLL attributable to smoking by disease category and sex, Georgia, 2008-2013\***

	YPLL attributed to smoking	Deaths attributed to smoking	Average YPLL per death from smoking
<b>Cancer</b>			
Male	51,033	2,981	17.1
Female	30,776	1,511	20.4
Total Cancer	81,809	4,492	18.2
<b>Cardiovascular Diseases</b>			
Male	32,530	1,764	18.4
Female	23,174	949	24.4
Total Cardiovascular Diseases	55,705	2,713	20.5
<b>Respiratory Diseases</b>			
Male	20,808	1,575	13.2
Female	22,364	1,502	14.9
Total Respiratory Diseases	43,172	3,077	14.0
<b>Total Adult (35+ years)</b>	<b>180,686</b>	<b>10,282</b>	<b>17.6*</b>
<b>Perinatal Conditions</b>			
Male	557	7	79.6
Female	452	6	75.3
Total Perinatal Conditions	1,009	13	77.6¶

Indicates the average 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  
 \*Because of data quality issues, 2009 mortality data are not used for analysis  
 Source: Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC) application

## Economic Costs

The average annual smoking-related productivity losses in Georgia during 2008-2013 were estimated at almost \$2.1 billion for men and \$1.2 billion for women. Based on 1998 health costs, the smoking-related adult healthcare costs were estimated at almost \$1.8 billion. These healthcare costs plus the average annual productivity losses exceeded \$5 billion per year (Table 3).

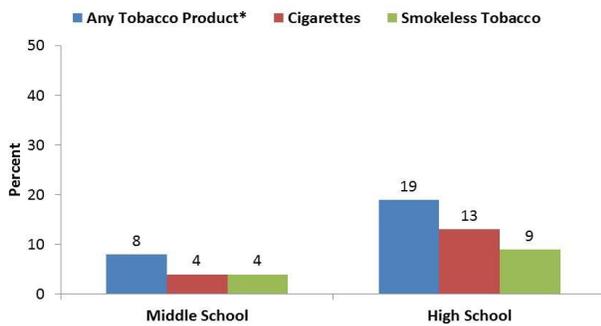
**Table 3. Average annual smoking-attributable economic costs, Georgia, 2008-2013\***

Cost component	Total
<b>Smoking attributable productivity losses</b>	
Men	\$2,077,000,000
Women	\$1,175,000,000
<b>Total</b>	<b>\$3,252,000,000</b>
<b>Smoking-attributable adult healthcare costs, 1998*</b>	
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
<b>Total</b>	<b>\$1,758,000,000</b>
<b>Total adult (35+ years) costs</b>	<b>\$5,010,000,000</b>
<b>Infant costs</b>	
Smoking-attributable neonatal healthcare costs	\$9,000,000
<b>Total costs</b>	<b>\$1,758,000,000</b>

\*Expenditure smoking-attributable fractions obtained from Miller, et.al and 1998 personal healthcare expenditure data obtained from Centers for Medicare and Medicaid Services  
 \*Because of data quality issues, 2009 mortality data are not used for analysis  
 ¶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  
 Source: Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC) application

# Tobacco Use in Georgia

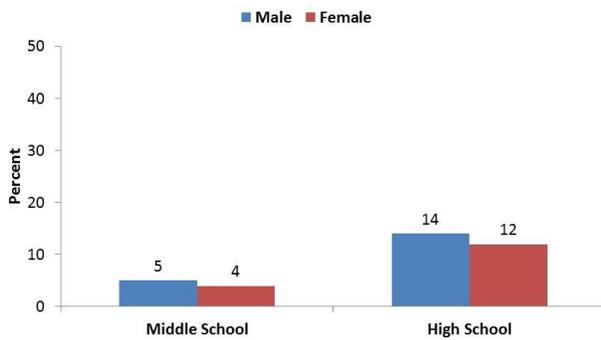
Figure 2. Percentage of youth tobacco users, by school type and tobacco product, Georgia, 2013



\*combined variable that includes use of cigarettes, cigars, smokeless tobacco, pipe, or bidis.

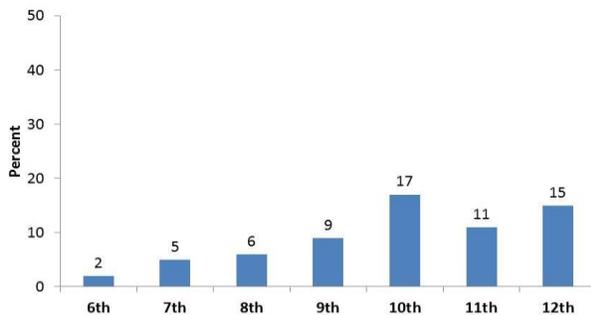
Source: 2013 Youth Risk Behavioral Survey (YRBS)

Figure 3. Percentage of youth smokers, by school type and sex, Georgia, 2013



Source: 2013 Youth Risk Behavioral Survey (YRBS)

Figure 4. Percentage of youth smokers, by school grade, Georgia, 2013



Source: 2013 Youth Risk Behavioral Survey (YRBS)

## Tobacco Use among Youth

In 2013, approximately 27,000 (8%) middle school students and 79,000 (19%) high school students in Georgia used some form of tobacco; 14,000 (4%) middle school students and 53,000 (13%) high school students smoked cigarettes, while 13,000 (4%) middle school students and 42,000 (9%) high school students used smokeless tobacco (Figure 2).

More male high school students (28,000; 14%) smoked cigarettes than female high school students (25,000; 12%) (Figure 3).

More male middle school students (8,300; 5%) smoked cigarettes than female middle school students (6,200; 4%) (Figure 3).

Among middle school students, 8th graders (6,700; 6%) were significantly more likely than 6th graders (2,400; 2%) to smoke cigarettes. Among high school students, 10th graders (19,000; 17%) were significantly more likely than 9th graders (10,300; 9%) to smoke cigarettes (Figure 4).

Among middle school students, the smoking prevalence was higher among non-Hispanic (NH) blacks and Hispanics than among non-Hispanic whites. For high school students, the smoking prevalence was significantly higher among non-Hispanic whites than other two groups (Figure 5).

In 2013, approximately 12,500 (4%) middle school students smoked a whole cigarette before age 11 and approximately 43,000 (10%) high school students smoked a whole cigarette before age 13 (Appendix Table C).

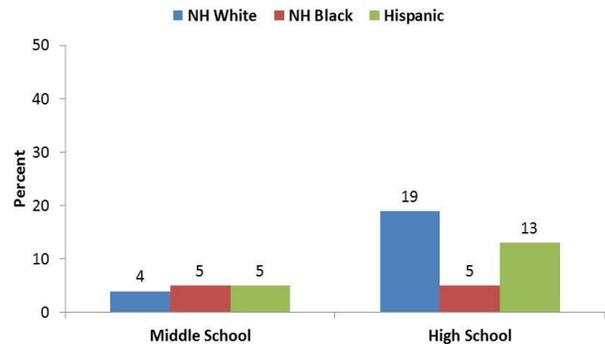
In 2013, approximately 34,000 (67%) high school smokers bought cigarettes at gas stations or convenience stores. Purchasing cigarettes at gas stations or convenience stores was more common among male smokers (56%; 19,000) than female smokers (44%; 15,000) for high school students (Figure 6; Table 4).

Table 4. Percentage of students who purchased cigarettes, by school type and location, Georgia, 2013

Location	Middle School (%)	High School (%)
Gas Station	41	61
Some other places	37	11
Convenience Store	7	7
Vending Machine	2	7
More than one places	2	7
Grocery Store	4	3
Drug Store	6	2
Through the mail	N/A	1

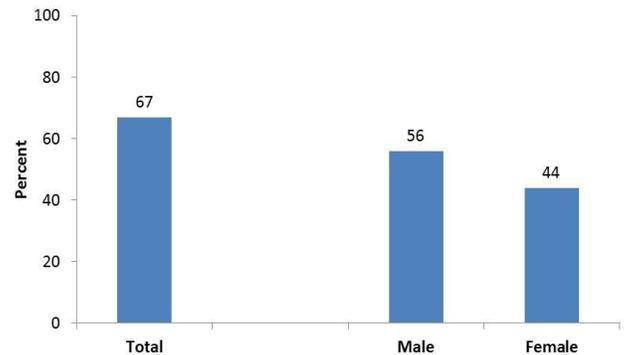
Source: 2013 Youth Tobacco Survey (YTS)

Figure 5. Percentage of youth smokers, by school type and race/ethnicity, Georgia, 2013



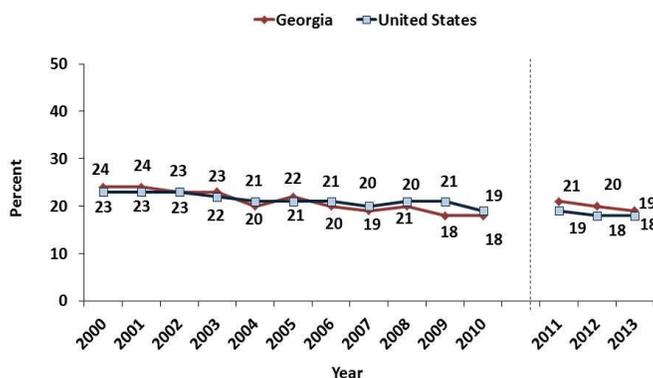
Source: 2013 Youth Risk Behavioral Survey (YRBS)

Figure 6. Percentage of high school students who purchased cigarettes at gas stations or convenience stores, by sex Georgia, 2013



Source: 2013 Youth Tobacco Survey (YTS)

Figure 7. Trends in Current Adult Smoking, Georgia and United States, 2000-2010, 2011-2013



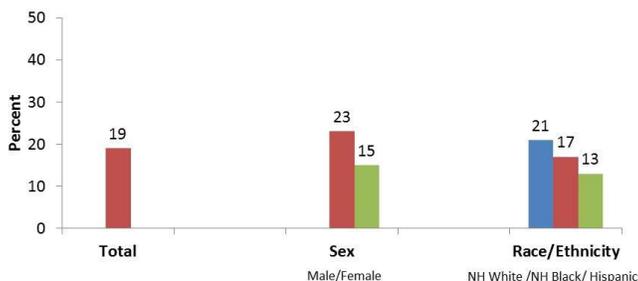
Georgia Data Source: Behavioral Risk Factor Surveillance System (BRFSS)  
U.S. Data Source: National Health Interview Survey (NHIS)

## Tobacco Use among Adults

Cigarette use among adult Georgians has remained stable during the past decade at about 23%. From 2000 through 2010, the smoking prevalence did not change significantly. In 2013, the smoking prevalence was the lowest at 19%.

Since 2011, comparison between 2011-2013 data and years prior to 2011 is not recommended due to the significant changes in methodology in the behavioral risk factor surveillance system (BRFSS).

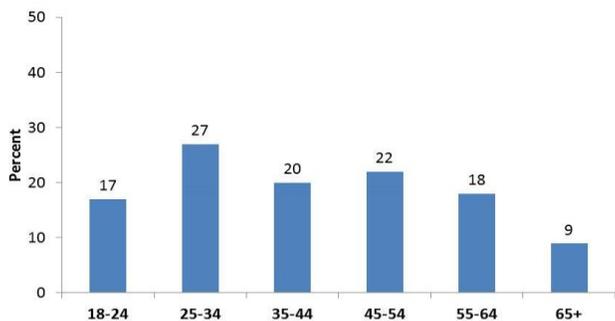
Figure 8. Percentage of adult smokers, Georgia, 2013



Source: 2013 Behavioral Risk Factor Surveillance System (BRFSS)

In 2013, approximately 1.3 million (19%) adult Georgians were current smokers, 1.5 million people (21%) were former smokers, and 4.3 million people (61%) were never smokers. More males (780,000; 23%) than females (580,000; 15%) smoked cigarettes. Non-Hispanic white adults (850,000; 21%) had the highest smoking prevalence rate compared to non-Hispanic black adults (360,000; 17%) and Hispanic adults (75,000; 13%) (Figure 8).

Figure 9. Percentage of current smokers, by age group, Georgia, 2013

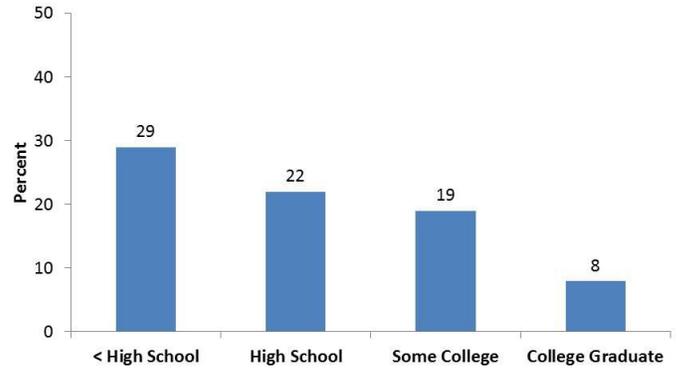


Source: 2013 Behavioral Risk Factor Surveillance System (BRFSS)

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

The smoking prevalence among adults in Georgia decreased with increasing education level. Adults who did not finish high school had the highest smoking prevalence (29%) compared to other educational attainment groups (Figure 10).

Figure 10. Percentage of adult smokers, by educational attainment, Georgia, 2013



Source: 2013 Behavioral Risk Factor Surveillance System (BRFSS)

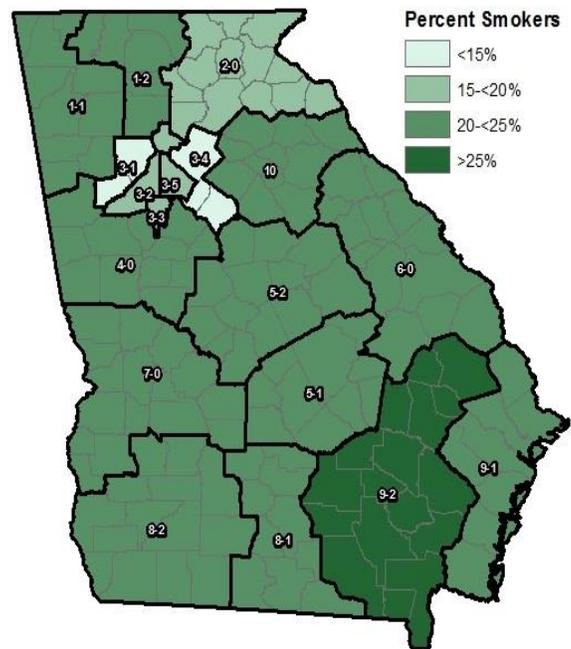
The annual average adult smoking prevalence varied by Public Health Districts (Map 1). Table 5 lists the smoking prevalence for each of the Public Health Districts.

Table 5. Percentage of adult smokers by Public Health District, Georgia, 2011-2013

District	2011-2013 (%)	2011-2013 (95% CI)
<b>Georgia</b>	<b>20.3</b>	<b>19.4-21.1</b>
1-1 Northwest	23.6	20.4-27.1
1-2 North Georgia	21.2	17.7-25.2
2-0 North	17.2	14.4-20.5
3-1 Cobb-Douglas	14.5	12.0-17.5
3-2 Fulton	16.4	13.6-19.5
3-3 Clayton	19.2	14.3-25.4
3-4 East Metro	14.5	12.1-17.3
3-5 DeKalb	16.8	13.6-20.5
4-0 LaGrange	23.8	20.6-27.3
5-1 South Central	22.3	17.4-28.1
5-2 North Central	21.5	18.2-25.2
6-0 East Central	21.7	18.4-25.4
7-0 West Central	24.1	20.2-28.6
8-1 South	22.6	18.4-27.3
8-2 Southwest	21.0	17.8-24.7
9-1 Coastal	23.8	20.5-27.4
9-2 Southeast	27.8	23.8-32.1
10-0 Northeast	22.2	18.6-26.3

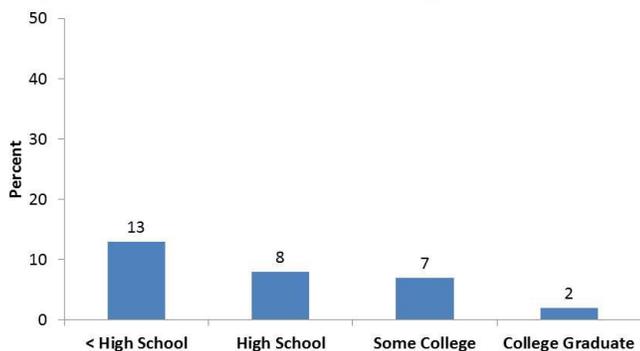
Source: 2011-2013 Behavioral Risk Factor Surveillance System (BRFSS)

Map 1. Percentage of adult smokers by Public Health District, Georgia, 2011-2013



## Tobacco Use among Pregnant Women

Figure 11. Percentage of women who smoked during the last 3 months of their pregnancy, by educational attainment, Georgia, 2008-2012



Source: 2008-2012 Pregnancy Risk Assessment and Monitoring System (PRAMS)

Based on the 2012 Pregnancy Risk Assessment and Monitoring System (PRAMS), 4% of women who delivered babies in Georgia smoked cigarettes during the last three months of pregnancy. During 2008-2012, women with less than a high school education (13%) 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 (13%) and women with annual household incomes between \$15,000 and \$24,999 (10%) were significantly more likely than women with annual household incomes of \$50,000 or more (2%) to have smoked cigarettes in the last three months of pregnancy (Table 6).

Table 6. Percentage of women who smoked during the last three months of pregnancy by race, age, and educational attainment, Georgia, 2008-2012

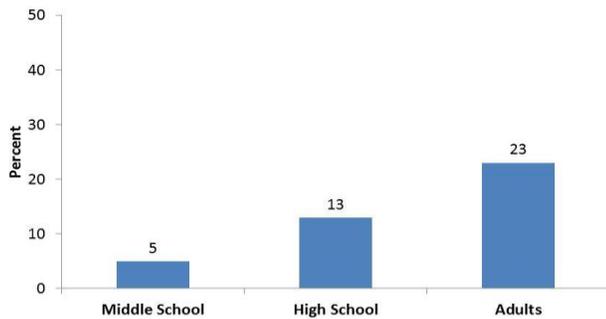
	% Smokers	95% CI
<b>Year</b>		
2008	8.1	5.9-11.0
2009	8.5	6.1-11.6
2010	8.3	6.0-11.4
2011	6.2	4.4-8.7
2012	4.2	2.9-6.1
<b>Race/Ethnicity</b>		
NH White	11.0	9.2-13.0
NH Black	5.4	3.9-7.4
Hispanic	1.6*	0.7-3.4
<b>Maternal Age (Years)</b>		
0-19	8.0	5.5-11.5
20-24	12.5	9.9-15.6
25-34	5.3	4.2-6.7
35+	2.8	1.4-5.4
<b>Education</b>		
<High School	13.4	10.4-17.1
High School	7.8	6.0-10.0
Some College	7.3	5.4-10.0
College Graduate	1.6*	0.8-3.0
<b>Household Annual Income</b>		
<\$15,000	13.1	10.5-16.2
\$15,000-\$24,999	9.6	6.5-14.0
\$25,000-\$49,999	5.9	3.8-9.0
\$50,000+	1.6*	0.8-3.3
<b>Geographic</b>		
Urban	6.1	5.0-7.4
Rural	10.0	7.8-12.6

\*Rates are calculated from counts <30 and may be unstable.

Source: 2008-2012 Pregnancy Risk Assessment and Monitoring System (PRAMS)

# Secondhand Smoke and Asthma

Figure 12. Percentage of youth and adults with asthma who are current smokers, Georgia, 2013

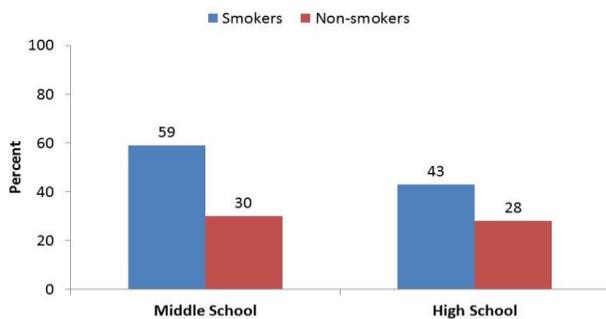


Source: 2013 Youth Tobacco Survey (YTS), 2013 Behavior Risk Factor Surveillance System (BRFSS)

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 38,000 (13%) middle school students, 50,400 (14%) high school students, and 630,000 (8%) adults in Georgia have asthma. Among those with asthma, approximately 2,100 (5%) middle school students, 6,100 (13%) high school students, and 140,000 (23%) adults are current smokers (Figure 12).

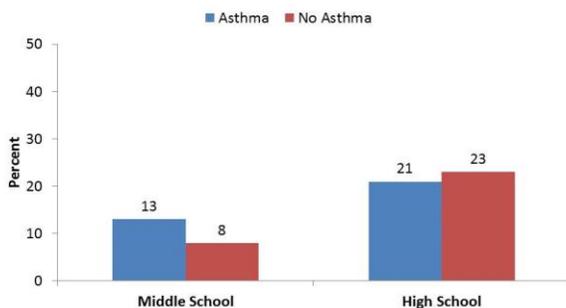
Figure 13. Percentage of youth who live with a current smoker, by smoking status, Georgia, 2013



Source: 2013 Youth Tobacco Survey (YTS)

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 still exposed to secondhand smoke at home. In Georgia, more than half of middle school students who smoke (59%) and a little less than half of high school students who smoke (43%) live with a current smoker. Nearly one-third of middle school non-smokers (30%) and high school non-smokers (28%) live with a current smoker (Figure 13).

Figure 14. Percentage of youth exposed to secondhand smoke at home, room, or car, by school type and asthma status, Georgia, 2013



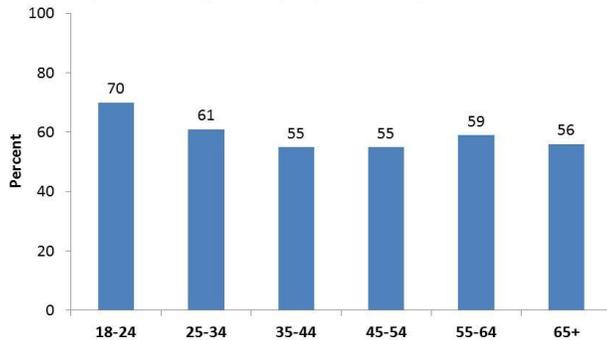
Source: 2013 Youth Tobacco Survey (YTS)

Among youth with asthma, approximately 13% of middle school students and 21% 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

## Smoking Cessation

Figure 15. Percentage of adult smokers who made a quit attempt\*, by age, Georgia, 2013

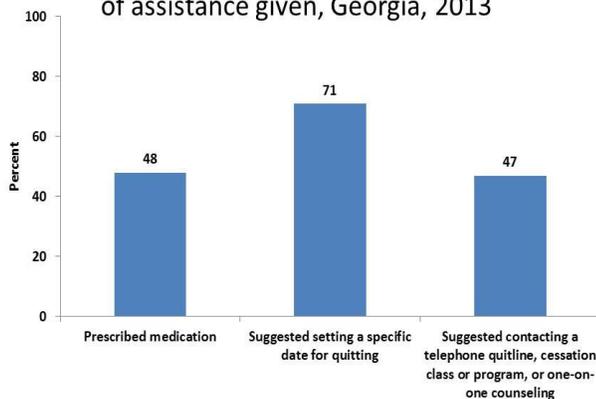


\* Adults who stopped smoking for one day or longer during the past 12 months because they were trying to quit smoking.

Source: 2013 Behavior Risk Factor Surveillance System (BRFSS)

Approximately 790,000 (59%) 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 aged 18-24 years made a quit attempt in 2013 than their older counterparts (Figure 15).

Figure 16. Percentage of adult smokers whose health care providers advised them to quit, by type of assistance given, Georgia, 2013

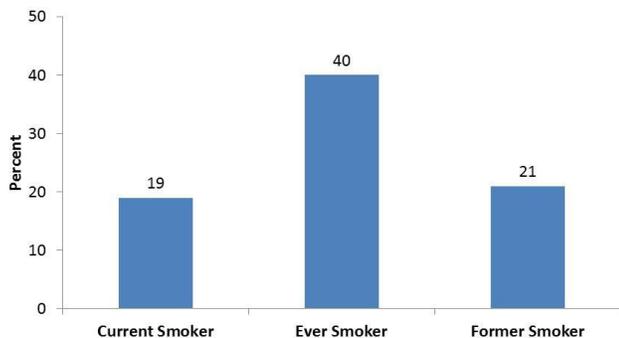


Source: 2014 Adult Tobacco Survey (ATS)

Approximately 230,000 (24%) adult smokers who made a quit attempt used medication such as nicotine patch or gum on their last quit attempt. Approximately 1.4 million (69%) adult smokers in Georgia reported to want to quit smoking cigarettes for good.

Approximately 645,000 (49%) 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 172,000 (48%) were given a prescription for medication to help them quit and approximately 167,000 (47%) were advised to participate in a telephone quitline, smoking cessation class or program, or one-on-one counseling (Figure 16).

Figure 17. Percentage of adult smokers, by smoking status, Georgia, 2013

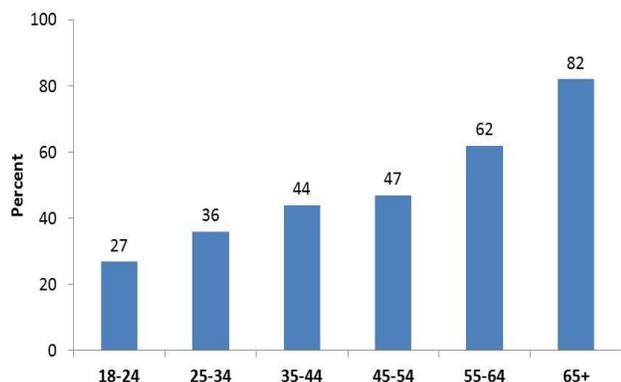


Source: 2013 Behavior Risk Factor Surveillance System (BRFSS)

### Former Smokers

The quit ratio is defined as the number of former smokers in a given population divided by the number of ever smokers in that same population. Quit ratio is used as an indicator of quitting behavior among people who have ever smoked. In 2013, approximately 1.5 million (21%) adults in Georgia who had ever smoked reported that they were not currently smoking (Figure 17).

Figure 18. Percentage of adult former smokers among adult ever smokers, by age, Georgia, 2013

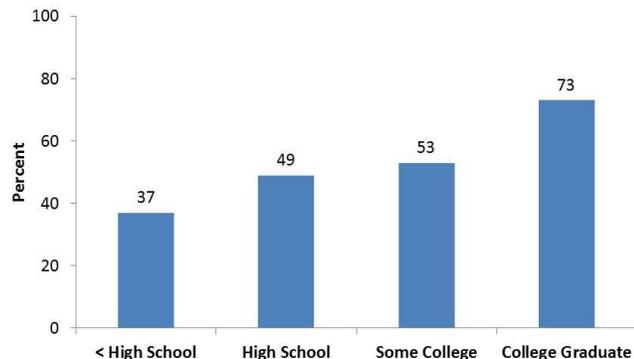


Source: 2013 Behavioral Risk Factor Surveillance System (BRFSS)

The overall quit ratio among adult smokers in Georgia is 52%. Similar quit ratios occurred among females (53%) and males (52%). Non-Hispanic white smokers (55%) were more likely than non-Hispanic black (46%) smokers to have stopped smoking.

The quit ratio increased with the higher age groups. The quit ratio was significantly higher among adults aged 65 years (82%) and older than among adults aged 18-64 years (Figure 18).

Figure 19. Percentage of adult former smokers among adult ever smokers, by educational attainment, Georgia, 2013



Source: 2013 Behavior Risk Factor Surveillance System (BRFSS)

Quit ratio increased with higher educational attainment. The quit ratio was significantly higher among adults with a college education (73%) than among adults with fewer years of education (Figure 17). The adults with less than high school education (37%) had the lowest quit ratio (Figure 19).

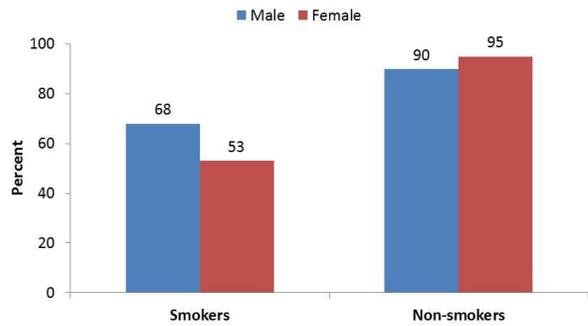
# Policies

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

## Home and Worksite Policies

Sixty-two percent (62%) of adult smokers in Georgia and the majority (93%) of adult non-smokers do not allow smoking anywhere inside their home (Figure 20).

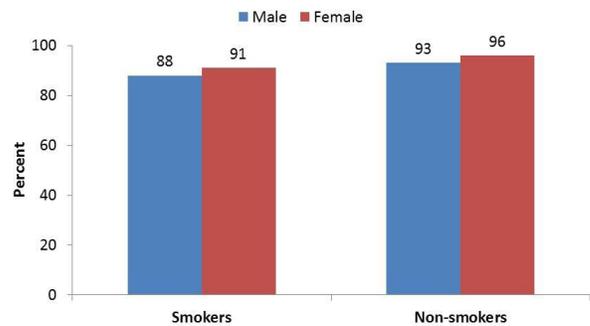
Figure 20. Percentage of adults who live in smoke-free\* homes, by smoking status and sex, Georgia, 2014



\*Smoking is not allowed anywhere inside the home.  
Source: 2014 Adult Tobacco Survey (ATS)

Eighty-nine percent (89%) of adult smokers in Georgia and the majority (94%) 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, 2014



\*Smoking is not allowed anywhere inside the home.  
Source: 2014 Adult Tobacco Survey (ATS)

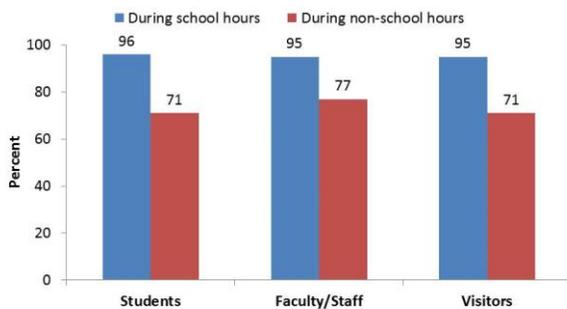
## School Policies

The School Health Profiles (Profiles) was conducted in the spring of 2014 to assess existing health-related school policies and to monitor characteristics of health education programs in public middle and high schools in Georgia.

Tobacco-free school policies help to prevent smoking initiation among youth and stop youth smokers from becoming established adult smokers. The model “100% Tobacco-Free School Policy” includes no tobacco use or possession:

- On school property, in school vehicles or at school functions off school property
- By all students, staff, parents, and visitors
- At all times, 24 hours a day, seven days a week

Figure 22a. Percentage of **middle schools** that have a policy prohibiting tobacco use, by group and time, Georgia, 2014

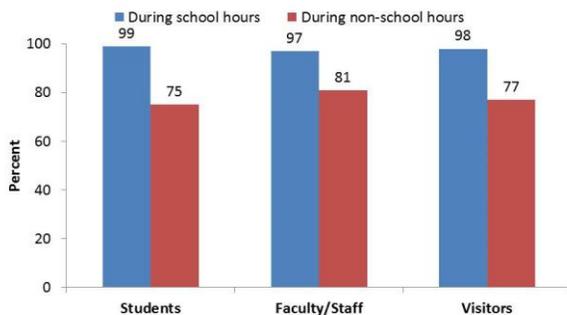


Source: 2014 Georgia School Health Profiles (SHP)

Findings from the Profiles indicate that almost all public schools in Georgia (98%) had implemented the federal policy prohibiting tobacco use (i.e., cigarettes, smokeless tobacco, cigars, and pipes) (Figures 22a, 22b, Appendix Table D).

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 F).

Figure 22b. Percentage of **high schools** that have a policy prohibiting tobacco use, by group and time, Georgia, 2014



Source: 2014 Georgia School Health Profiles (SHP)

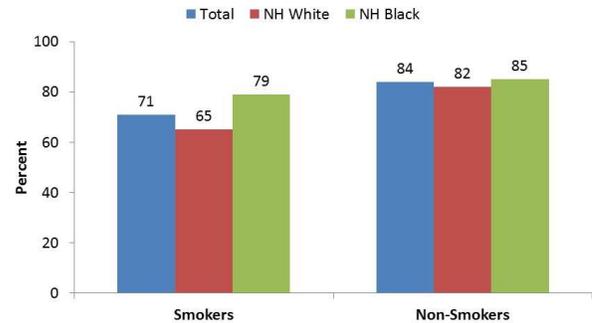
However only 60% of public schools implemented the model 100% tobacco free policy prohibiting tobacco use by students, faculty, staff and visitors in school buildings, at school functions, in school vehicles, on school grounds, and at off-site events, applicable 24 hours a day and seven days a week. (Appendix Table E).

## Support of Smoke-free Laws and Taxation

The Adult Tobacco Survey (ATS) was conducted in 2014 to obtain information about knowledge, attitudes, and beliefs on tobacco use and to assess the level of support of tobacco-related policies among Georgia adults. It included a question on the level of support for laws making restaurants in Georgia smoke-free.

Survey findings indicate that 71% of Georgia smokers and 84% of non-smokers supported laws making indoor restaurants smoke-free. Non-Hispanic black smokers (79%) were more likely than non-Hispanic white smokers (65%) to support smoke-free laws (Figure 23).

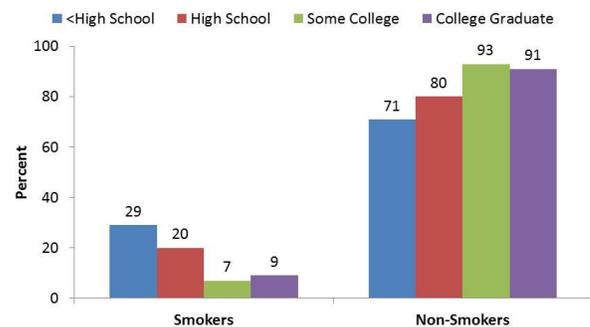
Figure 23. Percentage of adults who support laws making restaurants smoke-free, by smoking status and race, Georgia, 2014



Source: 2014 Adult Tobacco Survey (ATS)

The ATS also included a question on the level of support for an additional tax on cigarettes if the money raised was used to support tobacco use prevention programs. Survey findings indicated that 63% of Georgia smokers and 76% 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, 2014



Source: 2014 Adult Tobacco Survey (ATS)

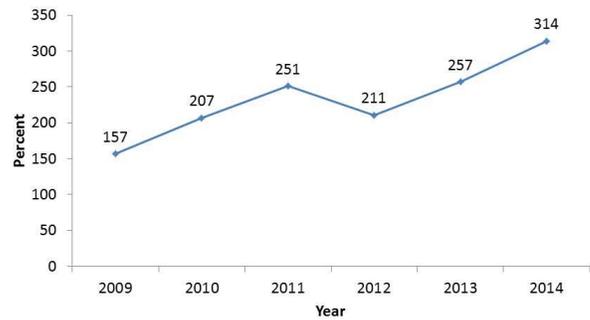
## Tobacco/Nicotine Poisonings

From April 15, 2009- April 15, 2015, there were a total of 1,513 calls made to the Georgia Poison Control Center about exposures or poisonings from tobacco- or nicotine-containing products. The number of calls for exposure or poisoning from products containing tobacco/nicotine has been increasing since 2009 (Figure 25).

More than half (56%) of the tobacco/nicotine poisoning exposures occurred among males while 44% of females had poisoning exposures to tobacco/nicotine products.

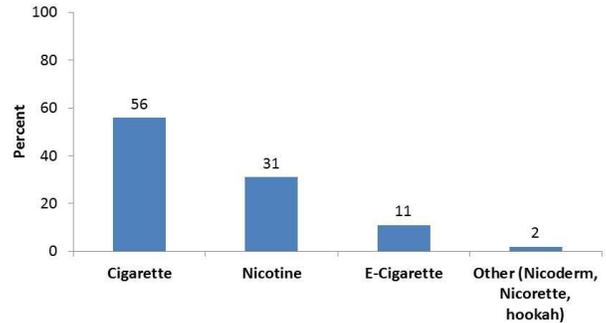
More than half (56%) of the calls were about tobacco/nicotine poisonings from cigarette use, followed by all other types of nicotine products, such as nicotine-containing cigars and chewing tobacco (31%), e-cigarettes (11%), and others (i.e., Nicoderm, Nicorettes, and hookahs, etc) (Figure 26).

Figure 25. Number of tobacco/nicotine poisonings or exposures, Georgia, 2009-2014



Source: 2009-2014 Georgia Poison Center (GPC)

Figure 26. Percentage of tobacco/nicotine poisonings or exposures, by product type, Georgia, April 15, 2009 to April 15, 2015



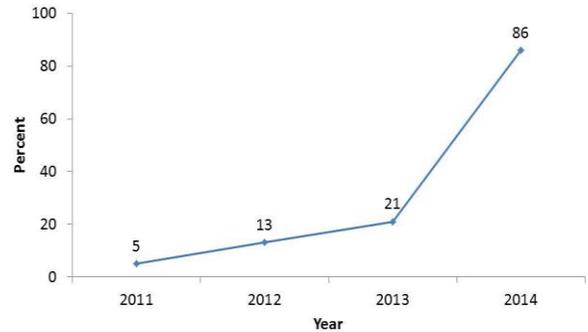
Source: 2009-2015 Georgia Poison Center (GPC)

## Nicotine Poisoning from E-Cigarettes

There were a total of 164 calls made to the Georgia Poison Control Center about nicotine poisonings from e-cigarettes during January 2011 to April 2015 (Figure 27).

There was a sharp increase in the number of nicotine poisoning calls due to e-cigarettes from 2013 (21) to 2014 (86). There were slightly higher numbers of reported nicotine poisonings from e-cigarettes in males (54%) than females (46%).

Figure 27. Number of nicotine poisonings from E-cigarettes, Georgia, 2011-2014



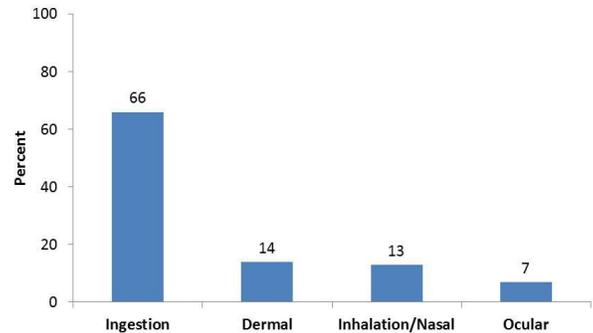
Source: 2011-2014 Georgia Poison Center (GPC)

Among the 164 calls, routes of nicotine poisoning from e-cigarettes were: ingestion (n =107), dermal (n=22), inhalation/nasal (n=21), and ocular (n=12) (Figure 28).

The most common routes of exposure for e-cigarette nicotine poisoning among children aged 0-5 years were: ingestion of the nicotine liquid (n=81), followed by dermal (n=10), then inhalation/nasal (n=2).

The most common routes of exposure for e-cigarette nicotine poisoning among adults age 19 years and older were: ingestion (n=22), followed by inhalation/nasal (n=14), dermal (n=12), and ocular (n=12).

Figure 28. Percentage of routes of nicotine poisoning from e-cigarettes, Georgia, 2011-2014



Source: 2011-2014 Georgia Poison Center (GPC)

## 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.
  - Stopping smoking is beneficial to all smokers, regardless how long they have smoked (8). Tobacco users should be encouraged to kick the habit and be referred to cessation professionals for assistance in quitting.
  - Maintaining and supporting statewide comprehensive tobacco use prevention programs is necessary to reduce the burden.
- About 13 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 smoke 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 annually in productivity losses alone 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).
- Four percent of middle school students and 13% 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 current laws and regulations that prohibit the sale of tobacco products to individuals 18 years of age and younger have been shown to hinder youth purchases of tobacco (14).

## Summary and Implications for Prevention (continued)

- In Georgia, 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.  
Implications for prevention:
  - 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 people living with asthma (3).
- More than half (59%) 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 (98%) in Georgia have policies limiting or prohibiting tobacco use on the premises. Many employed adults (94%) 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).
- Tobacco-free school policies help to prevent smoking initiation among youth and stop youth smokers from becoming established adult smokers. The model “100% Tobacco-Free School Policy” includes no tobacco use or possession:  
Implications for prevention:
  - Smoking on school grounds has detrimental effects on students at school, including encouraging students to smoke. Georgia does not have statewide legislation mandating 100% tobacco-free policies in public K-12 schools. Therefore, each school district must pass the 100% tobacco-free policy individually.
  - As of 2014, 101 (56%) of the Georgia’s 181 school districts successfully passed 100% tobacco-free policies. This is a significant increase from 2005, when only one Georgia school district had a 100% tobacco-free policy (19). Youth involvement in tobacco-free trainings, advocacy, and coalition building at school are important steps to establish 100% tobacco-free school policies.

# Methodology and Limitations

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

## Methodology

### **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 and maintained 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  $\geq 35$ . 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

$\text{RR}_1$  = Relative risk of death for adult current smokers relative to adult never smokers

$\text{RR}_2$  = 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

$\text{RR}_1$  = Relative risk of death for infants of maternal smokers relative to infants of maternal nonsmokers

$\text{RR}_2$  = 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  $\geq 65$  years. The adult smoking prevalence estimates for 2013 were obtained from the Georgia Behavioral Risk Factor Surveillance System (BRFSS). The maternal smoking prevalence for 2008-2012 was obtained from Georgia Vital Statistics as noted on birth certificates.

## Relative Risk Data

SAMMEC uses age-adjusted RR estimates for adults aged  $\geq 35$  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  $\geq 65$  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.

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 2008-2013 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 2008-2013 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:

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

### 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 2008-2013, and this resulting rate was in turn multiplied times the district's average annual number of deaths for each disease category:

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

State 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:

$$\text{Quit ratio} = \frac{\text{Former smokers}}{\text{State deaths for each disease category} \div \text{Ever smokers}} \times 100$$

### 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 Georgia Department of Public Health. 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.

Data on prevalence of cigarettes and smokeless tobacco were taken from the Behavioral Risk Factor Surveillance System. All estimates presented in this report are based on 2013 survey findings.

### Youth Surveys

Data on tobacco use among youth and purchasing ability were obtained from the 2013 Georgia's Youth Risk Behavior Survey. Data on exposure to secondhand smoke were obtained from the 2013 Georgia Youth Tobacco Survey. Both are school-based surveys administered to a representative sample of middle and high school students in the state (19).

## **Adult Surveys**

Adult Tobacco Survey is a stratified, random-digit dialed, telephone survey of non-institutionalized adults ages 18 years and older. The ATS has been conducted every 4-5 years in Georgia since 2004. This survey collects state-level data on adult tobacco use, secondhand smoke exposure, quitting behaviors, existing chronic conditions and diseases, and opinions and attitudes related to tobacco use and tobacco-free policies. Information from this survey can be used to plan, evaluate, and improve programs that address tobacco use, cessation, and secondhand smoke exposure. It was designed to yield data representative and comparable at both national and state levels. Data were weighted to remove sampling and non-response bias and to generalize the data to the Georgia population.

Data on support of tobacco-related laws and taxation were obtained from the 2014 Georgia Adult Tobacco Survey. The survey provided data on knowledge, attitudes and beliefs related to tobacco use among the adult Georgian population (20).

## **Pregnancy Risk Assessment and Monitoring System**

The Pregnancy Risk Assessment Monitoring System is a statewide, ongoing, population-based survey that collects information on women who give birth in Georgia. It began in January 1993 and it supplements birth certificate data by collecting information on women's attitudes, experiences, and behaviors before, during, and after they deliver a live born infant. Women are contacted by mail or telephone (for non-responders) within 2-6 months after delivery. Each mother's survey is linked to her infant's birth certificate. Mother's knowledge of pregnancy-related health issues such as adverse effects of tobacco is one of the core portions of the questionnaires.

## **School Health Profiles**

The School Health 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.

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.

## **Georgia Poison Control Center**

The Georgia Poison Control Center is committed to reducing the impact of poisoning by collecting, analyzing, and dispensing data for the development and implementation of poisoning prevention and awareness strategies. The Georgia Poison Control Center stores information regarding poisoning-related calls in an electronic database. This information is used to educate residents, health care professionals, and media on poisoning trends in the state of Georgia. This information is also used in the development of poisoning prevention strategies

## **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 2013 smoking prevalence and mortality data for 2008-2013, 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

### **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.

### **Pregnancy Risk Assessment and Monitoring System (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.

### **School Health Profiles (SHP)**

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.

### **Georgia Poison Control Center (GPC)**

The data reflect only those poisonings reported to the Georgia Poison Center during the indicated time period. The data does not reflect the overall incidence of poisoning in Georgia because poisoning victims may not call the Georgia Poison Center for assistance.

# 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.

**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.

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# 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, 2008-2013\*

Disease Category	ICD-10	Male			Female			Both sexes		
		Deaths	SAM	YPLL	Deaths	SAM	YPLL	Deaths	SAM	YPLL
<b>Neoplasms</b>										
Lip, Oral cavity, Pharynx	C00-C14	171	122	2420	72	31	592	243	153	3012
Esophagus	C15	291	202	3854	72	39	1034	363	241	4888
Stomach	C16	182	46	811	124	13	375	306	59	1186
Pancreas	C25	478	97	1803	450	96	1932	928	193	3735
Larynx	C32	83	67	1261	21	15	329	104	82	1589
Trachea, Lung, Bronchus	C33-C34	2,587	2,241	37766	1,860	1,261	24937	4,447	3503	62703
Cervix Uteri	C53	-	-	0	125	13	821	125	13	821
Bladder	C67	253	112	1496	118	31	446	371	143	1942
Kidney and Renal Pelvis	C64-C65	204	73	1294	107	4	115	311	78	1409
Acute myeloid leukemia	C92.0	100	21	329	73	7	194	173	28	523
<b>Total Neoplasms</b>		<b>4,349</b>	<b>2,981</b>	<b>51033</b>	<b>3,022</b>	<b>1,511</b>	<b>30,776</b>	<b>7,371</b>	<b>4,492</b>	<b>81,809</b>
<b>Cardiovascular Diseases:</b>										
Ischemic Heart Disease										
Aged 35-64 years	I20-I25	1,424	502	13,667	565	172	7,032	1,989	1,067	20,699
Aged 65+ years		2,719	382	3,907	2,557	237	2,204	5,276	619	6,111
Other Heart Disease	100-109, I26-I51	3,175	540	8,435	3,645	278	5,113	6,820	818	13,548
Cerebrovascular Disease										
Aged 35-64 years	I60-I69	417	138	3,802	339	128	6,917	756	266	10,719
Aged 65+ years		1,063	87	840	1,763	74	661	2,826	161	1,501
Atherosclerosis	I70	72	18	218	91	6	61	163	24	279
Aortic Aneurysm	I71	135	84	1,441	84	39	873	219	123	2,313
Other diseases of circulatory system	I72-I78	96	13	223	129	16	313	225	29	535
<b>Total Cardiovascular Diseases</b>		<b>9,101</b>	<b>1,764</b>	<b>32,530</b>	<b>9,173</b>	<b>949</b>	<b>23,174</b>	<b>18,274</b>	<b>2,713</b>	<b>55,705</b>
<b>Respiratory Diseases:</b>										
Pneumonia, Influenza	J10-J18	647	134.87	1656	757	87	1792	1,404	222	3448
Bronchitis, Emphysema	J40-J43	179	160.60	2268	157	125	1850	336	286	4118
Chronic Airways Obstruction	J47	1,606	1,279.61	16884	1,776	1290	18722	3,382	2,569	35606
<b>Total Respiratory Diseases</b>		<b>2,432</b>	<b>1,575</b>	<b>20,808</b>	<b>2,690</b>	<b>1,502</b>	<b>22,364</b>	<b>5,122</b>	<b>3,077</b>	<b>43,172</b>
<b>Total Adult</b>		<b>15,882</b>	<b>6,320</b>	<b>104,372</b>	<b>14,885</b>	<b>3,962</b>	<b>76,314</b>	<b>30,767</b>	<b>10,282</b>	<b>180,686</b>
<b>Perinatal Conditions:</b>										
Short Gestation / Low Birth Weight	P07	105	4	270	81	3	221	186	6	491
Respiratory Distress Syndrome	P22	10	0	9	11	0	11	21	0	21
Respiratory Conditions - Newborn	P23-P28	21	0	27	15	0	21	36	1	48
Sudden Infant Death Syndrome	R95	64	3	251	48	2	200	112	6	450
<b>Total Perinatal Conditions</b>		<b>200</b>	<b>7</b>	<b>557</b>	<b>155</b>	<b>6</b>	<b>452</b>	<b>355</b>	<b>13</b>	<b>1,009</b>
<b>Overall Total</b>		<b>16,082</b>	<b>6,327</b>	<b>104,929</b>	<b>15,040</b>	<b>3,968</b>	<b>76,766</b>	<b>31,122</b>	<b>10,295</b>	<b>181,695</b>

\*Because of data quality issues, 2009 mortality data are not used for analysis.

\*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, 2008-2013\***

	Cancer		Cardiovascular Disease		Respiratory Disease		Total smoking-related diseases	
	Deaths	SAM	Deaths	SAM	Deaths	SAM	Deaths	SAM
<b>Georgia</b>	<b>7,371</b>	<b>4,492</b>	<b>18,274</b>	<b>2,713</b>	<b>5,122</b>	<b>3,077</b>	<b>30,767</b>	<b>10,282</b>
1-1 Northwest Health District (Rome)	619	378	1,504	226	448	269	2,571	848
1-2 North Georgia Health District (Dalton)	362	221	778	117	276	166	1,416	467
2-0 North Health District (Gainesville)	520	317	1,252	188	392	235	2,164	714
3-1 Cobb/Douglas Health District	482	294	1,129	169	315	189	1,926	636
3-2 Fulton Health District	508	310	1,330	200	276	166	2,114	698
3-3 Clayton County Health District (Morrow)	136	83	359	54	83	50	578	191
3-4 East Metro Health District (Lawrenceville)	500	305	1,113	167	312	187	1,925	635
3-5 DeKalb Health District	394	240	927	139	201	121	1,522	502
4-0 LaGrange Health District	652	398	1,586	238	485	291	2,723	899
5-1 South Central Health District (Dublin)	151	92	497	75	141	85	789	260
5-2 North Central Health District (Macon)	491	300	1,335	200	330	198	2,156	711
6-0 East Central Health District (Augusta)	433	264	972	146	304	182	1,709	564
7-0 West Central Health District (Columbus)	332	203	981	147	238	143	1,551	512
8-1 South Health District (Valdosta)	227	138	624	94	187	112	1,038	343
8-2 Southwest Health District (Albany)	372	227	929	139	238	143	1,539	508
9-1 Coastal Health District (Savannah)	461	281	1,090	164	328	197	1,879	620
9-2 Southeast Health District (Waycross)	350	214	910	137	312	187	1,572	519
10-0 Northeast Health District (Athens)	382	233	920	138	258	155	1,560	515

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

\*Because of data quality issues, 2009 mortality data are not used for analysis.

**Table C. Percent of middle school and high school students who smoked a cigarette before ages 11 and 13\*, by grade and sex, Georgia, 2013**

Grade	Males		Females		Total	
	%	95% CI	%	95% CI	%	95% CI
<b>Smoked before age 11</b>	<b>4.3</b>	<b>(3.0-6.2)</b>	<b>2.7</b>	<b>(1.5-4.8)</b>	<b>3.5</b>	<b>(2.5-5.0)</b>
6th	4.2	(2.7-6.4)	1.8	(0.8-3.8)	3.0	(1.9-4.6)
7th	3.6	(2.2-5.7)	3.9	(1.7-8.4)	3.7	(2.2-6.2)
8th	5.3	(2.6-10.2)	2.6	(1.2-5.7)	3.9	(2.2-7.0)
<b>Smoked before age 13</b>	<b>13.7</b>	<b>(10.9-17.3)</b>	<b>6.5</b>	<b>(4.6-9.1)</b>	<b>10.3</b>	<b>(8.3-12.8)</b>
9th	13.1	(7.3-22.5)	7.4	(4.2-12.7)	10.3	(6.6-15.8)
10th	15.9	(11.5-21.7)	7.1	(3.6-13.5)	11.8	(8.8-15.7)
11th	10.9	(7.3-16.1)	5.9	(3.1-10.7)	8.6	(6.0-12.1)
12th	14.2	(9.6-20.4)	5.5	(2.5-11.5)	9.8	(6.2-15.0)

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

## Appendices Table D& E

**Table D. Percentage of schools that had a policy prohibiting tobacco use by tobacco product, group, and school type, Georgia, 2014**

	Middle School		High School	
	%	95% CI	%	95% CI
<b>Had a policy prohibiting cigarettes</b>				
Students	95.9	(93.0-97.6)	99.2	(95.8-99.8)
Faculty/Staff	95.9	(93.0-97.6)	99.2	(95.8-99.8)
Visitors	93.9	(90.2-96.2)	95.7	(94.7-99.5)
<b>Had a policy prohibiting smokeless</b>				
Students	93.1	(89.2-95.7)	95.0	(90.4-97.4)
Faculty/Staff	95.9	(93.0-97.6)	98.3	(94.7-99.5)
Visitors	95.9	(93.0-97.6)	98.3	(94.7-99.5)
<b>Had a policy prohibiting cigars</b>				
Students	93.9	(90.2-96.2)	94.8	(90.2-97.4)
Faculty/Staff	93.3	(89.4-95.8)	94.8	(90.2-97.4)
Visitors	95.9	(93.0-97.6)	97.4	(93.6-99.0)
<b>Had a policy prohibiting pipes</b>				
Students	95.3	(92.1-97.2)	96.6	(92.4-98.5)
Faculty/Staff	93.9	(90.3-96.3)	94.0	(89.1-96.8)
Visitors	93.3	(89.4-95.8)	94.0	(89.1-96.8)

**Table E. Percentage of schools that follow a policy that mandates a “tobacco-free environment” by school type, Georgia, 2014**

	Middle School		High School	
	%	95% CI	%	95% CI
School prohibits tobacco use by students, staff, and visitors in school buildings, at school functions, in school vehicles, on school grounds, and at off-site school events, applicable 24 hours a day and seven days a week.	59.3	(52.5-65.7)	61.4	(53.9-68.5)

# Appendices Table F

**Table F. Percentage of schools that had a policy tobacco use by tobacco use by coverage, group, and school type, Georgia, 2014**

	Middle School		High School	
	%	95% CI	%	95% CI
<b>Policy prohibits tobacco use during school hours</b>				
Students	95.9	(92.9-97.6)	99.1	(95.8-99.8)
Faculty/Staff	94.5	(91.0-96.7)	96.7	(92.6-98.5)
Visitors	95.2	(92.0-97.2)	98.3	(94.7-99.5)
<b>Policy prohibits tobacco use during non-school hours</b>				
Students	70.7	(64.5-76.3)	75.3	(69.0-80.6)
Faculty/Staff	76.5	(70.8-81.4)	80.8	(75.5-85.2)
Visitors	70.6	(64.2-76.3)	76.5	(70.2-81.8)
<b>Policy prohibits tobacco use in school buildings</b>				
Students	95.9	(93.0-97.6)	99.2	(95.8-99.8)
Faculty/Staff	95.2	(92.0-97.2)	99.2	(95.8-99.8)
Visitors	95.2	(92.0-97.2)	99.2	(95.8-99.8)
<b>Policy prohibits tobacco use outside on school grounds*</b>				
Students	94.5	(91.0-96.7)	98.3	(94.7-99.5)
Faculty/Staff	95.9	(92.9-97.6)	99.1	(95.8-99.8)
Visitors	95.2	(92.0-97.1)	96.6	(92.4-98.5)
<b>Policy prohibits tobacco use on school buses</b>				
Students	95.2	(92.0-97.2)	99.1	(95.8-99.8)
Faculty/Staff	94.5	(91.0-96.7)	96.6	(92.5-98.5)
Visitors	95.8	(92.8-97.6)	99.1	(95.8-99.8)
<b>Policy prohibits tobacco use at off-campus, school-sponsored events</b>				
Students	94.4	(90.9-96.6)	94.9	(90.2-97.4)
Faculty/Staff	95.1	(91.8-97.1)	99.1	(95.7-99.8)
Visitors	88.7	(84.5-91.8)	88.1	(82.3-92.1)

\*School grounds include school parking lots and playing fields.

# Appendices Table G

**Table G. Tobacco-related Healthy People 2020 objectives, current status in U.S., and Georgia**

Objective #	Objective	HP 2020 Target	U.S. Baseline	State of Georgia
TU-1	TU-1.1 Reduce cigarette by smoking by adults	12.0%	20.6%	18.8%
	TU-1.2 Reduce use of smokeless tobacco products by adults	0.3%	2.3%	5.0%
	TU-1.3 Reduce use of cigars by adults	0.2%	2.2%	6.2%
TU-2	TU-2.1 Reduce use of tobacco products by adolescents (past month)	21.0%	22.4%	19.4%
	TU-2.2 Reduce use of cigarettes by adolescents ( past month)	16.0%	15.7%	12.8%
	TU-2.3 Reduce use of smokeless tobacco products by adolescents (past month)	6.9%	8.8%	9.5%
	TU-2.4 Reduce use of cigars by adolescents (past month)	8.0%	12.6%	13.5%
TU-3		MS/HS		
	TU-3.1 Reduce the initiation of the use of tobacco products among children and adolescents aged 12 to 17 years	5.8%	7.8%	3.5%/7.1%
	TU-3.2 Reduce the initiation of the use of cigarettes among children and adolescents aged 12 to 17 years	4.3%	6.3%	3.5%/10.3%
	TU-3.3 Reduce the initiation of the use of smokeless tobacco products by children and adolescents aged 12 to 17 years	0.6%	2.6%	3.4%/5.2%
	TU-3.4 Reduce the initiation of the use of cigars by children and adolescents aged 12 to 17 years	2.9%	4.9%	3.7%/5.8%
	TU-3.5 Reduce the initiation of the use of tobacco products by young adults aged 18 to 25 years	8.9%	10.9%	Data not collected
	TU-3.6 Reduce the initiation of the use of cigarettes by young adults aged 18 to 25 years	6.4%	8.4%	13.8%
	TU-3.7 Reduce the initiation of the use of smokeless tobacco products by young adults aged 18 to 25 years	0.2%	2.2%	Data not collected
	TU-3.8 Reduce the initiation of the use of cigars by young adults aged 18 to 25 years	4.3%	6.3%	Data not collected
TU-4	TU-4.1 Increase smoking cessation attempts by adult smokers	80.0%	48.3%	59.0%
TU-5	TU-5.1 Increase recent smoking cessation success by adult smokers	8.0%	6.0%	Data not collected
TU-6	TU-9.6 Increase smoking cessation during pregnancy	30.0%	11.3%	Data not collected
TU-7	Increase smoking cessation attempts by adolescent smokers	64.0%	48.0%	54.0%
TU-8	Increase comprehensive Medicaid insurance coverage of evidence-based treatment for nicotine dependency in States and the District of Columbia	States and District of Columbia		
		51.0%	6.0%	Met
TU-9	TU-9.1 Increase tobacco screening in office-based ambulatory care settings	68.6%	62.4%	N/A
	TU-9.2 Increase tobacco screening in hospital ambulatory care settings	66.2%	60.2%	N/A
	TU-9.3 Increase tobacco screening in dental care settings	58.2%	52.9%	N/A

	TU-9.4 Increase tobacco screening in substance abuse care settings	54.8%	49.8%	N/A
TU-10	TU-10.1 Increase tobacco cessation counseling in office-based ambulatory care settings	21.1%	19.2%	N/A
	TU-10.2 Increase tobacco cessation counseling in hospital ambulatory care settings	24.9%	22.6%	N/A
	TU-10.3 Increase tobacco cessation counseling in dental care settings	39.3%	35.7%	N/A
	TU-10.4 Increase tobacco cessation counseling in substance abuse care settings	37.6%	34.2%	N/A
TU-11	TU-11.1 Reduce the proportion of children aged 3 to 11 years exposed to secondhand smoke	47.0%	52.2%	Met
	TU-11.2 Reduce the proportion of adolescents aged 12 to 17 years exposed to secondhand smoke	41.0%	45.5%	44.5%
	TU-11.3 Reduce the proportion of adults aged 18 years and older exposed to secondhand smoke	33.8%	37.6%	43.0%
TU-12	Increase the proportion of persons covered by indoor worksite policies that prohibit smoking	100.0%	75.3%	94.0%
TU-13	Establish laws in States and the District of Columbia on smoke-free indoor air that prohibit smoking	States and District of Columbia		
	TU-13.1 in private worksites	51	30	Met
	TU-13.2 in public worksites	51	34	Met
	TU-13.3 in restaurants	51	28	Met
	TU-13.4 in bars	51	22	Met
	TU-13.5 in gaming halls	51	25	N/A
	TU-13.6 in commercial daycare centers	51	38	Met
	TU-13.7 in home-based daycare centers	51	37	Met
	TU-13.8 in public transportation	51	37	Met
	TU-13.9 in hotels and motels	51	0	Met
	TU-13.10 in multiunit housing	51	0	Met
	TU-13.11 in vehicles with children	51	4	Ongoing
	TU-13.12 in prisons and correctional facilities	51	8	Met
	TU-13.13 in substance abuse treatment facilities	51	10	Met
	TU-13.14 in mental health treatment facilities	51	10	Met
	TU-13.15 in entrances and exits of all public places	51	1	Met
	TU-13.16 on hospital campuses	51	1	Met
	TU-13.17 on college and university campuses	51	1	Met
TU-14	Increase the proportion of smoke-free homes	87.0%	79.1%	88.0%
TU-15	Increase tobacco-free environments			
	TU-15.2 in middle schools, including all school facilities, property, vehicles, and school events	100.0%	58.7%	59.3%
	TU-15.3 in high schools, including all school facilities, property, vehicles, and school events	100.0%	66.1%	61.4%
TU-16		States and District of Columbia		
	TU16.1 Eliminate State laws that preempt stronger local tobacco control laws on smoke-free indoor air	0	12	N/A

	TU16.2 Eliminate State laws that preempt stronger local tobacco control laws on advertising	0	18	N/A
	TU16.3 Eliminate State laws that preempt stronger local tobacco control laws on youth access	0	22	Met
	TU16.4 Eliminate State laws that preempt stronger local tobacco control laws on licensure	0	8	N/A
TU-17		States, DC and Federal government		
	TU17.1 Increase the Federal and State tax on cigarettes	52	1	N/A
	TU17.2 Increase the Federal and State tax on smokeless tobacco products	52	0	N/A
TU-18	Reduce the proportion of adolescents and young adults in grades 6 through 12 who are exposed to tobacco marketing	MS/HS		
	TU18.1 on the Internet	33.1%	36.8%	35.1%/33.1%
	TU18.2 in magazines and newspapers	19.3%	48.6%	31.5%/34.1%
	TU18.3 in movies and television	69.8%	77.6%	61.9%/64.2%
	TU18.4 at point of purchase (convenience store, supermarket, or gas station)	77.1%	85.7%	69.1%/71.8%
TU-19	Reduce the illegal sales rate to minors through enforcement of laws prohibiting the sale of tobacco products to minors	States and District of Columbia		
	TU19.1 in States and the District of Columbia	51	5	N/A
	TU19.2 in Territories	8	1	N/A
TU-20	TU20.1 Increase the number of States and the District of Columbia with comprehensive evidence-based tobacco control programs	States and District of Columbia		
		51	10	Met
TU-21		States and District of Columbia		
	Increase the number of States requiring high-tech tax stamps on packs of cigarettes	51	2	N/A

N/A=not applicable