

GEORGIA 2012

Asthma Surveillance



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HIGHLIGHTS

In Georgia:

- The prevalence of asthma among children aged 0 to 17 years has risen by 2% between 2003 and 2010.
- Nine percent (9%) of children aged 0 to 17 years currently have asthma.
- Black children have higher asthma prevalence (14%) than white children (8%).
- Fifty-eight percent (58%) of school-aged children missed one or more days of school in the past 12 months due to asthma.
- Eight percent (8%) of adults aged 18 years and older had current asthma in 2010.
- Asthma caused more than 52,000 emergency room (ER) visits annually between 2006 and 2010.
- Asthma is the cause of approximately 10,000 hospitalizations per year between 2006 and 2010.
- Black males are more likely to visit the ER due to asthma.
- Black females are more likely to be hospitalized due to asthma.
- Sixty-two percent (62%) of adults and 71% of children with asthma used prescription medication in the past 3 months.
- Ninety-five percent (95%) of adults and children with asthma received professional instruction on how to use an inhaler.
- Sixty-two percent (62%) of school-aged children have asthma medication in school.
- Thirty-eight percent (38%) of adults and 29% of children with asthma do not use prescription medications.



INTRODUCTION

Asthma is a chronic inflammatory disorder of the lungs and airways that can include recurrent episodes of wheezing, coughing, shortness of breath, and chest pain or tightness. The disease affects people of all ages. The causes of asthma are not well understood and likely differ among individuals. Factors such as genetics, environmental exposures, and viral and respiratory infections all play a role in causing asthma¹. Asthma symptoms can be triggered or worsened by many things such as allergens (dust, animal fur, cockroaches, mold, and pollens from trees, grasses, and flowers), irritants (tobacco smoke, air pollution, chemicals or dust in the workplace), and exercise¹.

According to a 2009 report from the National Center for Health Statistics, 17.5 million adults (8%) and 7.1 million (9.6%) children in America currently have asthma². Nationwide, asthma was the reason for 13.3 million visits to physician offices, hospital outpatient clinics, and emergency departments (ED)³. Furthermore, nationwide during 2009, there were 456,000 hospital discharges with asthma as the primary diagnosis; the average length of hospital stay for asthma patients was 3.4 days⁴. Although asthma affects everyone, a recent Centers for Disease Control and Prevention (CDC) [Morbidity and Mortality Weekly Report \(MMWR\)](#) indicated that within the U.S. population, current asthma prevalence varied by demographic and economic groups. Asthma was more prevalent among females, children, the poor, the multiracial, and Puerto Rican Hispanics⁵.

In Georgia, 8% of adults and 9% of children currently have asthma. Asthma caused more than 51,000 emergency room (ER) visits and 32,000 hospitalizations per year. Sixty-two percent (62%) of school-aged children missed at least one or more days of school because of asthma. Twenty-three percent (23%) of adults with current asthma said that they experienced asthma symptoms every day. Asthma affect Georgians economically (e.g. ER visits and hospitalizations) as well as the quality of life for those living with the disease.

The **2012 Georgia Asthma Surveillance Report** presents asthma prevalence, morbidity, and death rates among adults and children in Georgia during 2006-2010. Information on management, environmental triggers, symptoms, prescription medication use, and work-related asthma is also presented. The purpose of this report is to guide and inform public health programs, policy makers, and other healthcare providers in their efforts to reduce the burden of asthma in Georgia.



ASTHMA PREVALENCE

Asthma prevalence is one of the key indicators to measure and monitor the burden of disease among population groups. It was measured by using the Behavioral Risk Factor Surveillance System (BRFSS) (see Appendix II). Current and lifetime asthma are prevalence measures that are operationally defined in the survey by the following two questions (see Appendix III):

- 1) "Have you ever been told by a doctor {nurse or other health professional} that you have asthma?"
- 2) "Do you still have asthma?"

Lifetime asthma – when a respondent has been told by a doctor (nurse or other health professional) that they have asthma.

Current asthma – when a respondent has ever been told they have asthma AND they still have asthma at the time they responded to the survey.

Only current asthma is used in the analyses presented in this report.

Children Aged 0-17 Years

Asthma is a leading chronic illness among children and youth in the United States. Among school-aged children, asthma is one of the leading causes of absenteeism. In 2003, it was estimated that 12.8 million school days were missed due to asthma nationwide, as reported by the 4 million children who had asthma attacks⁶. In Georgia, the average lifetime asthma prevalence among children aged 0-17 years between 2006-2010 was 15% while current asthma prevalence for the same period was 11%. However, in 2010 alone, the prevalence of current asthma among children aged 0-17 years was 9%.

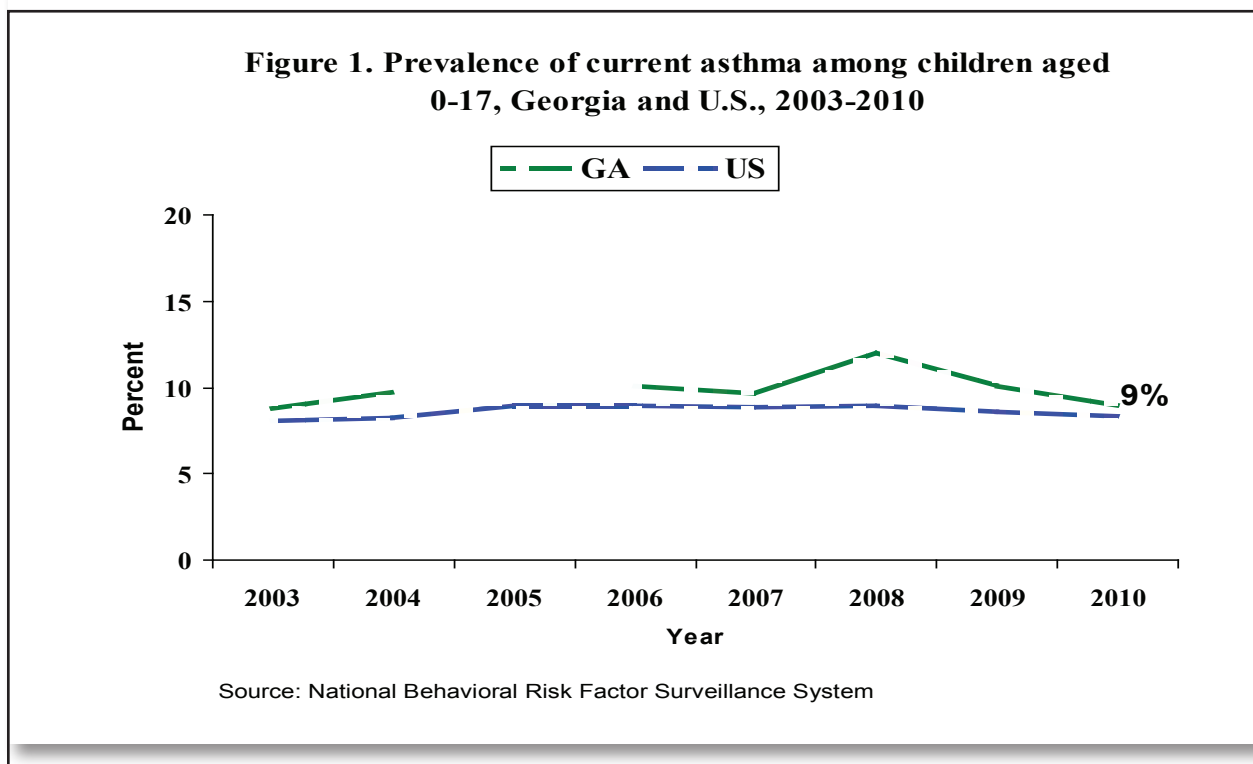
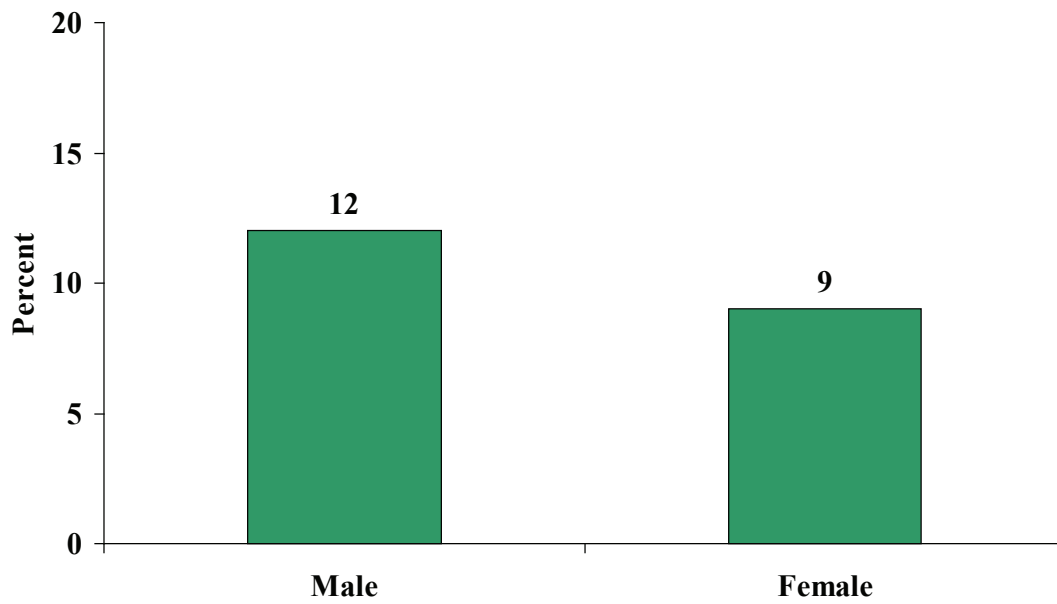
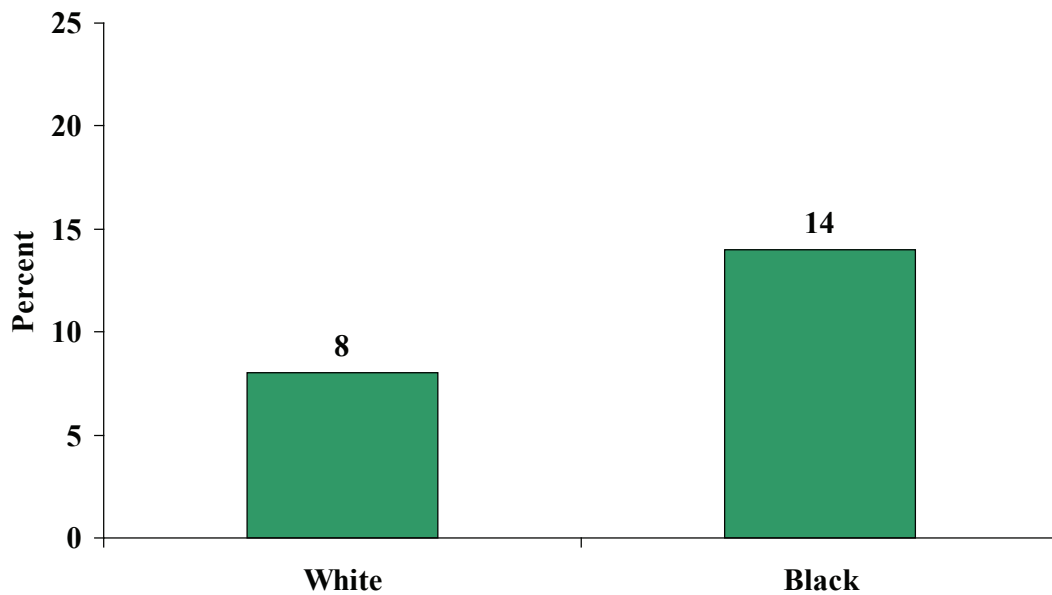


Figure 2. Prevalence of current asthma among children aged 0-17 by sex, Georgia, 2006-2010



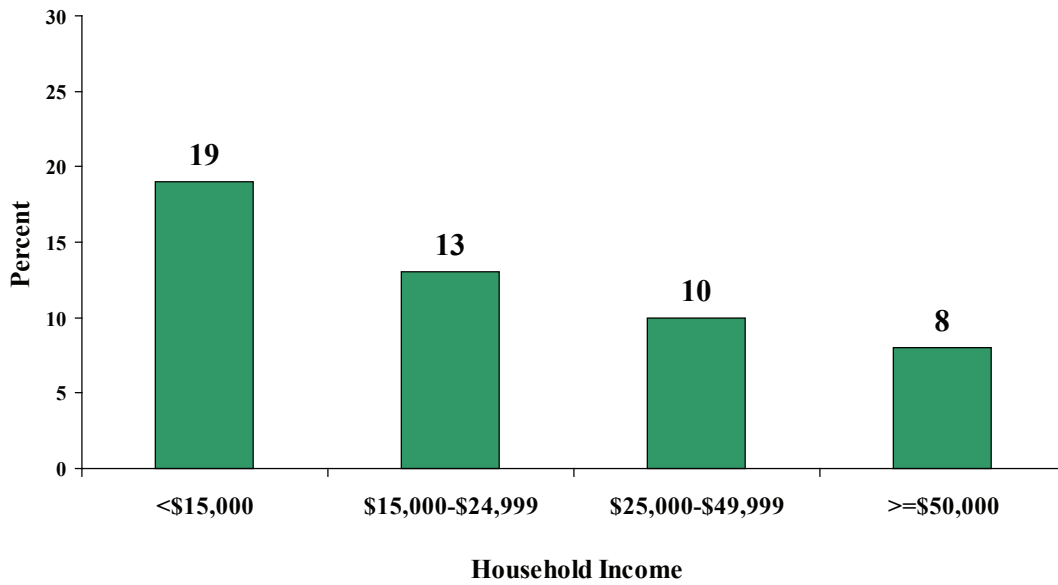
Source: Georgia Behavioral Risk Factor Surveillance System

Figure 3. Prevalence of current asthma among children aged 0-17 by race, Georgia, 2006-2010



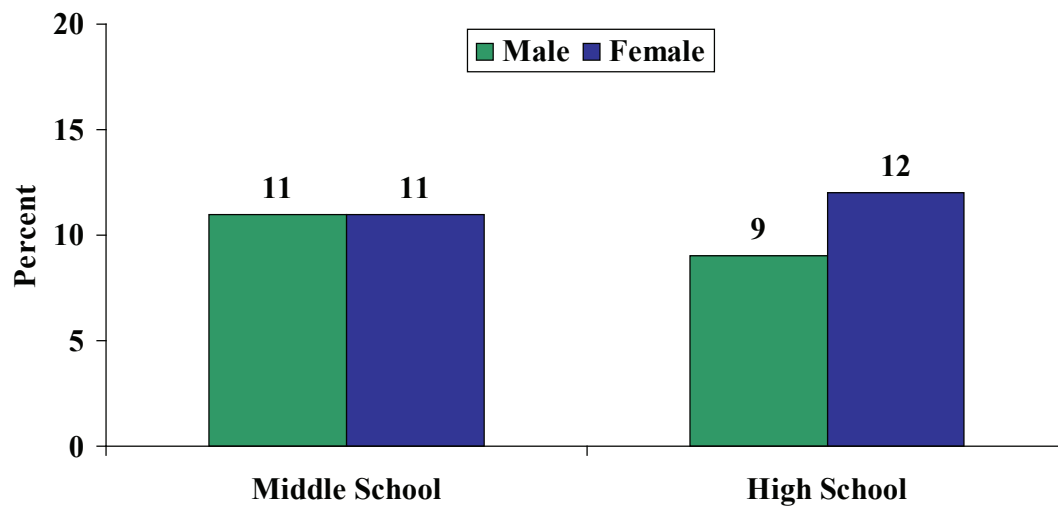
Source: Georgia Behavioral Risk Factor Surveillance System

Figure 4. Prevalence of current asthma among children aged 0-17 by annual household income, Georgia, 2006-2010



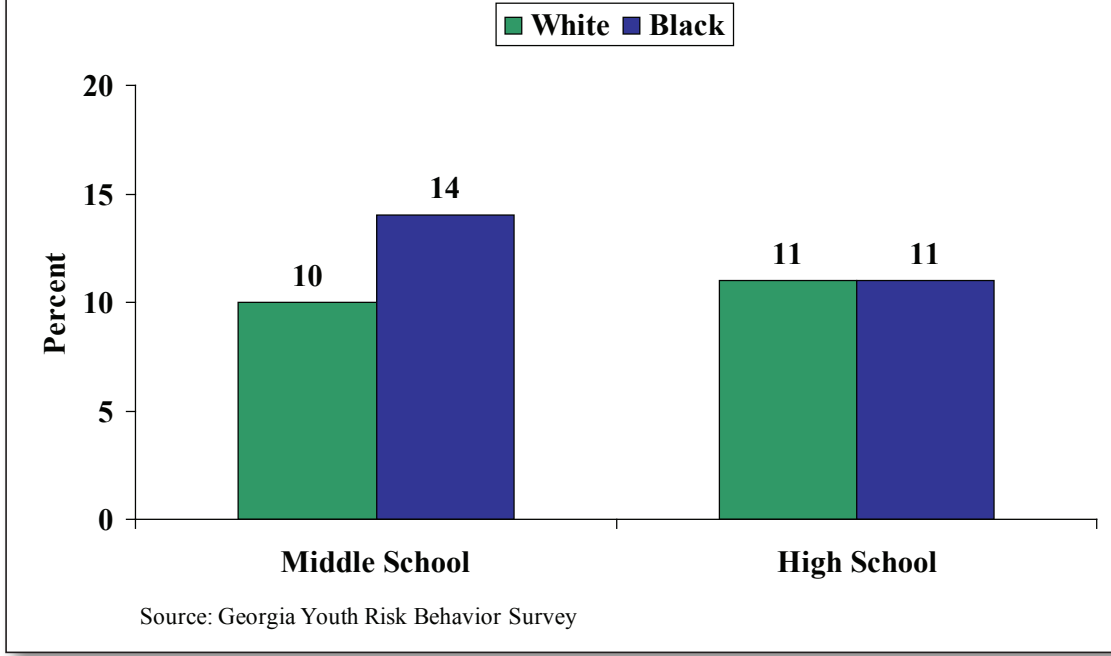
Source: Georgia Behavioral Risk Factor Surveillance System

Figure 5. Prevalence of current asthma among middle and high school students by sex, Georgia, 2007 and 2009



Source: Georgia Youth Risk Behavior Survey

Figure 6. Prevalence of current asthma among middle and high school students by race, Georgia, 2007 and 2009



Adults

Figure 7. Prevalence of current asthma among adults, Georgia and US, 2001-2010

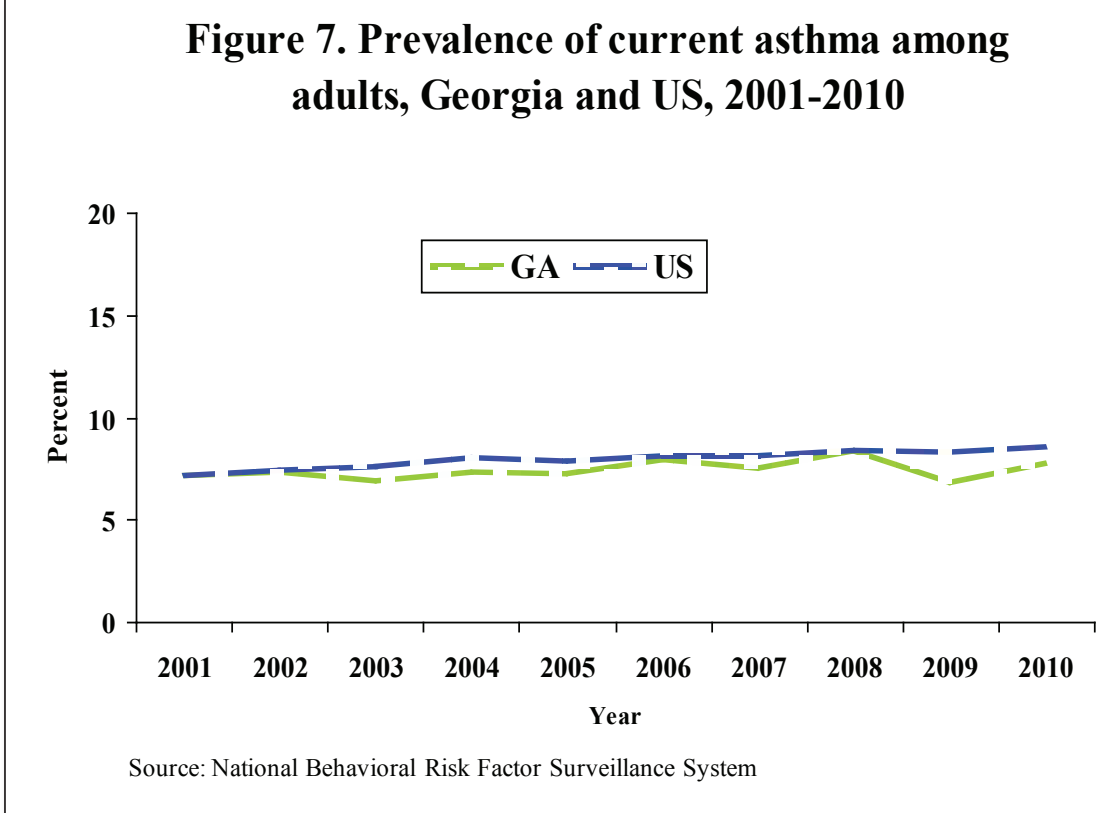
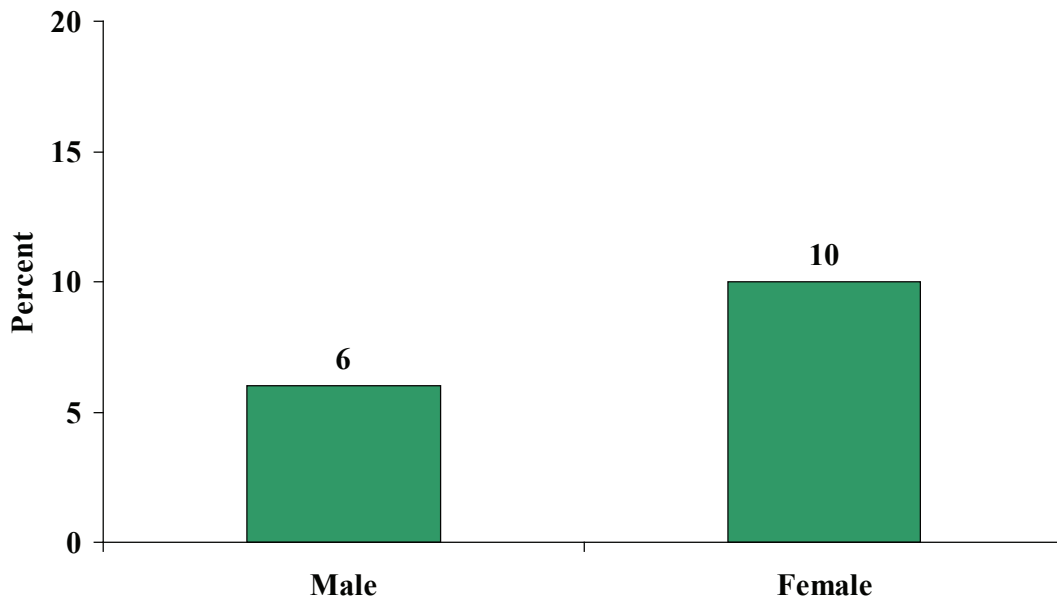
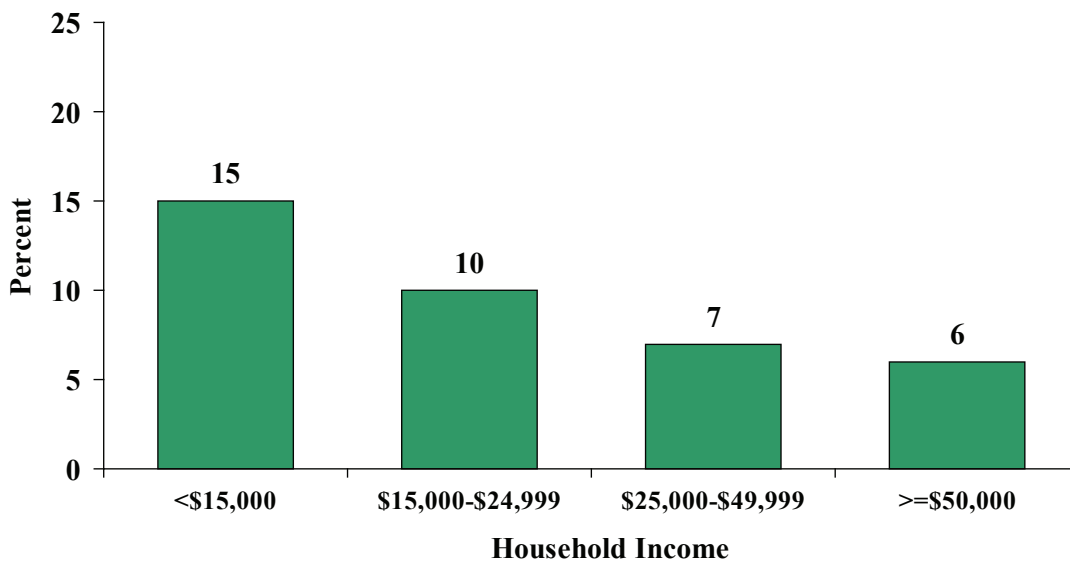


Figure 8. Prevalence of current asthma among adults by sex, Georgia, 2006-2010



Source: Georgia Behavioral Risk Factor Surveillance System

Figure 9. Prevalence of current asthma among adults by household income, Georgia, 2006-2010



Source: Georgia Behavioral Risk Factor Surveillance System



Key Findings

- Asthma prevalence among Georgia children aged 0-17 years increased by 38% from 2003 (9%) to 2008 (12%) ,followed by a 26% decline in 2010 (9%).
- Asthma prevalence in adults for both Georgia and the U.S. increased by 18% from 2001 to 2008. However, based on 2009 and 2010 BRFSS data, Georgia prevalence seems to be fluctuating.
- Asthma prevalence in Georgia is significantly higher among:
 - Boys versus girls
 - Black children versus white children
 - Adult females versus adult males
- Asthma prevalence in Georgia is higher among adults and children living in households with an annual household income of less than \$15,000 (Figures 4 and 9). These differences can also be found in national data⁷. There are many reasons for these disparities, including genetic, economic, social and cultural factors. Furthermore, individuals within disparate populations may live and work in unhealthy environments that can worsen their asthma symptoms⁷.

WORK-RELATED ASTHMA

Work-related asthma (WRA) is defined as asthma caused or made worse by exposures in the work environment. In this report, WRA was measured using data collected from the Asthma Call Back Survey (ACBS). Respondents who answered “yes” to the question, “Were you ever told by a doctor or other health professional that your asthma was related to any job you ever had?” were classified as having WRA.

The United States Department of Labor estimates that 11 million workers in a wide range of industries and occupations are exposed to at least one of the numerous agents known to be associated with occupational asthma⁸. Examples of hazardous and toxic substances are paints, fuels, and solvents. Nationwide, the estimated proportion of ever-employed adults with current asthma who had WRA was 9%⁹.

Table 1. Proportion of Adult with Current Asthma Attributed to Work, Georgia, 2006-2009			
	<i>TOTAL</i>	<i>Male</i>	<i>Female</i>
Ever-employed adults who have been told by a health care professional that their asthma was work-related	11.3%	10.6%	11.7%
Currently-employed adults who have been told by a health care professional that their asthma was work-related	8.8%	5.8%	10.8%
Currently-employed adults whose asthma was caused by current job	18.5%	18.7%	18.3%
Currently-employed adults whose asthma was made worse by current job	36.4%	34.9%	37.3%
Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey			

Key Findings: Work-Related Asthma

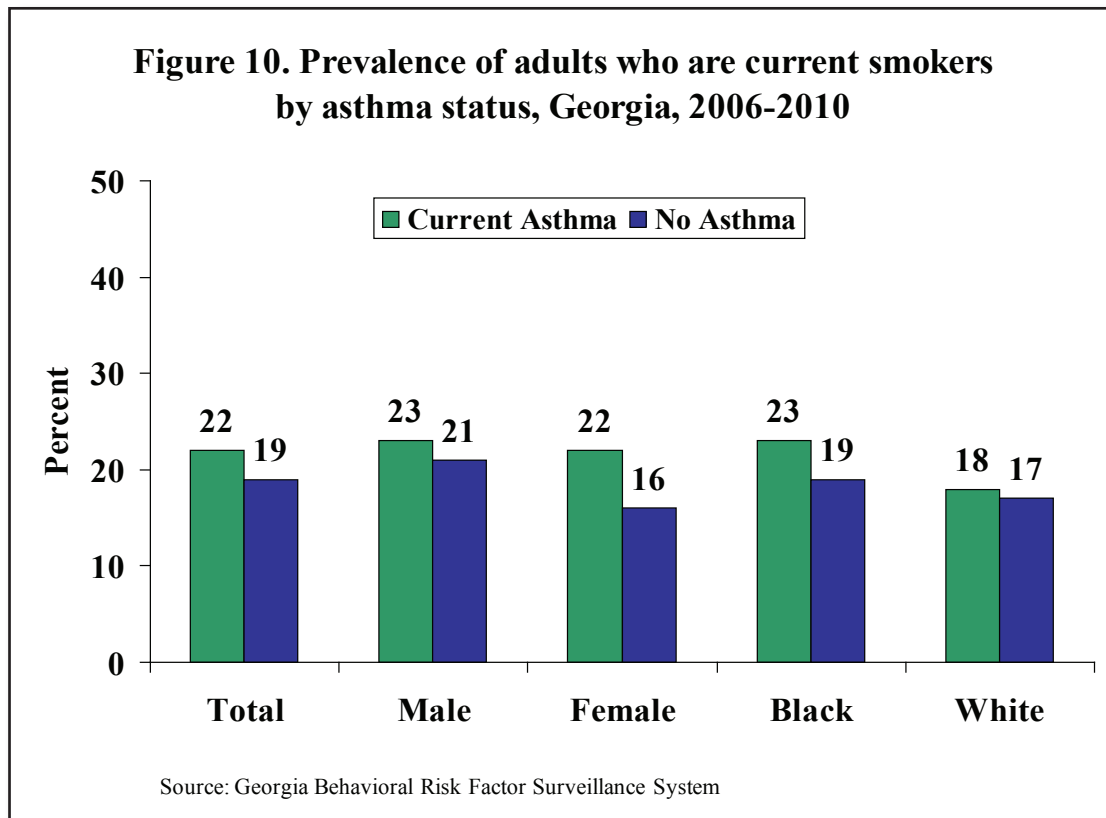
- The proportion of ever-employed Georgia adults with current WRA was 11.3%.
- About 9% of currently-employed Georgia adults with current asthma had WRA.
- About 36% of currently-employed Georgia adults with current asthma reported that their asthma was made worse by their current job.
- WRA among currently-employed Georgia women (10.8%) is significantly higher than in men (5.8%).



BEHAVIORAL RISK FACTORS

Smoking

The harmful effect of tobacco use on health is well-documented. Smoking is especially harmful to the asthmatic smoker. Research showed that in adults who have asthma, tobacco smoking has been associated with an increase in asthma severity and decreased responsiveness to inhaled corticosteroids (ICSs)¹⁰, which are asthma medications.



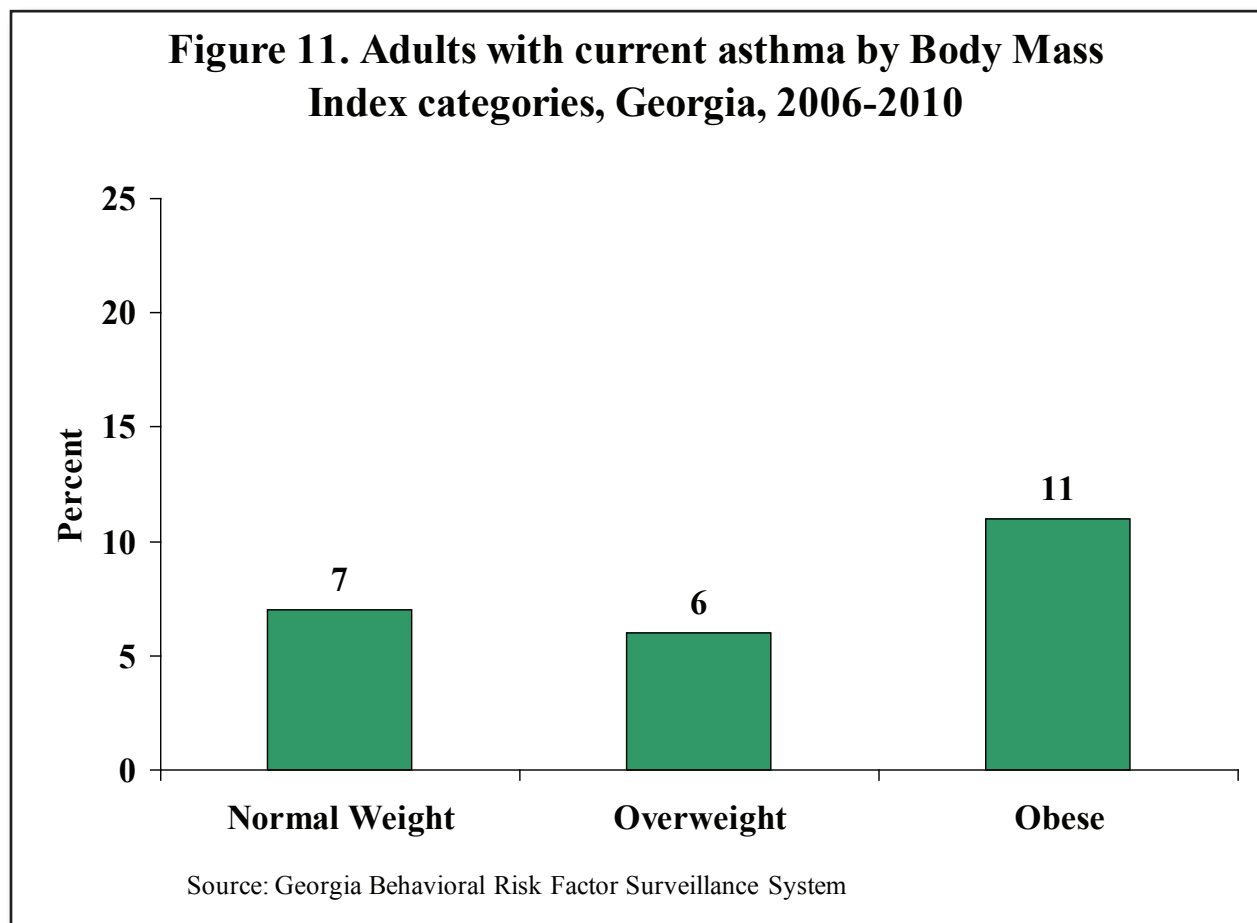
Obesity

Obesity is a risk factor that increases the prevalence and incidence of asthma and reduces asthma control¹¹. There are several biological mechanisms that may explain the association between obesity and asthma:

- obesity reduces lung function thereby causing the airway to narrow;
- obesity is a state of low-grade system inflammation that may act on the lungs to worsen asthma;
- co-morbidities of obesity, such as gastroesophageal reflux, sleep-disordered breathing, type 2 diabetes, or hypertension may worsen asthma.

Key Findings: Behavioral Risk Factors

- Overall, 22% of Georgia adults with current asthma continue to smoke tobacco products, compared to only 17% of adults who do not have current asthma. This difference is statistically significant.
- Among adults in Georgia with current asthma, there is no significant difference between the frequency of men and women who are current smokers or a difference between the frequency of black and white smokers.
- The prevalence of Georgia adults with current asthma who are obese (41%) is significantly higher than those who are normal weight (31%) or overweight (28%).



ENVIRONMENTAL RISK FACTORS

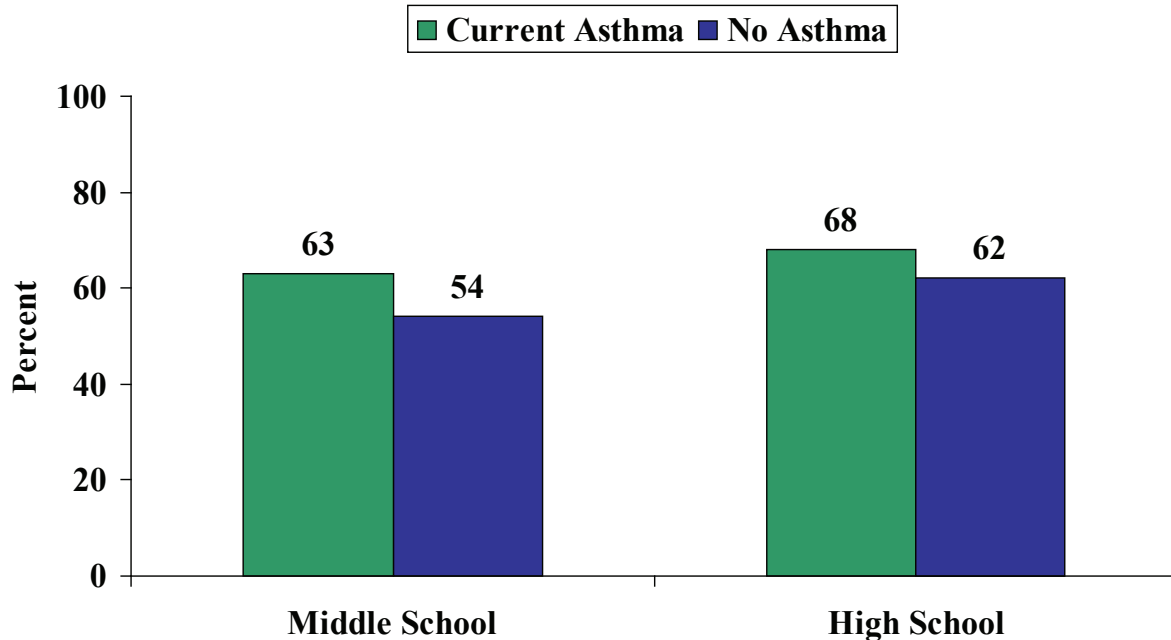
Up to 90% of Americans spend their time indoors¹². Commonly-recognized asthma triggers that can be found indoors include dust mites, pets, cockroaches, mice and rats, mold, environmental tobacco smoke (ETS), and indoor pollutants¹³. Examples of indoor pollutants include wood-burning stoves or fireplaces, unvented gas appliances, and volatile compounds from new carpeting and painting¹³. For people with asthma, exposure to these triggers can increase and exacerbate asthma symptoms¹³.

Table 2. Environmental triggers in the homes of adults and children with current asthma, Georgia, 2006-2009

	Adults (%)	Children (%)
Carpeting or rugs in bedrooms	72	74
Pets inside home	54	41
Gas used for cooking	38	35
Saw cockroach inside home	23	16
Wood burning fireplace or stove used	19	18
Smoking inside home in past week	16	12
Unvented gas appliances used	14	6
Mold inside home	10	5
Mice or rats in the home	5	5

Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Figure 12. Prevalence of exposure to secondhand tobacco smoke* among middle and high school students by asthma status, Georgia, 2009



**Secondhand smoke exposure in a room, or in a car, or by living with someone who smokes*

Source: Georgia Youth Tobacco Survey

Key Findings

- The majority of Georgia adults and children with asthma reported exposure to carpeting/rugs and/or pets inside the home.
- Eighty-one percent (81%) of Georgia children with current asthma were exposed to at least one or more indoor environmental triggers.
- More than half of Georgia middle (63%) and high school (68%) students who have asthma reported that they were exposed to secondhand smoke. The prevalence of secondhand smoke exposure was significantly higher among middle school students with current asthma than those with no asthma.

Environmental Modifications

Identifying and reducing/avoiding exposure to asthma triggers is an important component of asthma control. According to the American Lung Association (ALA)²⁴, there are simple ways to reduce exposure to some common triggers:

Pests - examples are dust mites and cockroaches. **Strategies:** wash bedding regularly, fix leaks, store garbage outside, vacuum and dust weekly, use allergen-proof pillow and mattress covers.

Mold- **Strategies:** cleaning visible mold, throwing away moldy items, running a dehumidifier and using the exhaust fan when taking a shower.

Strong odors- examples are scents from household items such as **perfumes, deodorants** and **cleaning supplies**. **Strategies:** avoid use of products with odors. If you live with someone who has asthma, ventilate the house during and after the use of strong -melling cleaning products.

Table 3. Environmental modifications in the homes of adults and children with current asthma, Georgia, 2006-2009

	Adults (%)	Children (%)
Used exhaust fan when cooking	68	71
Used exhaust fan in bathroom	60	55
Washed sheets and pillowcases in hotwater	39	31
Used air cleaner or purifier regularly	33	33
Used mattress cover	32	39
Used pillow cover	31	37
Used dehumidifier	24	23

Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Key Findings

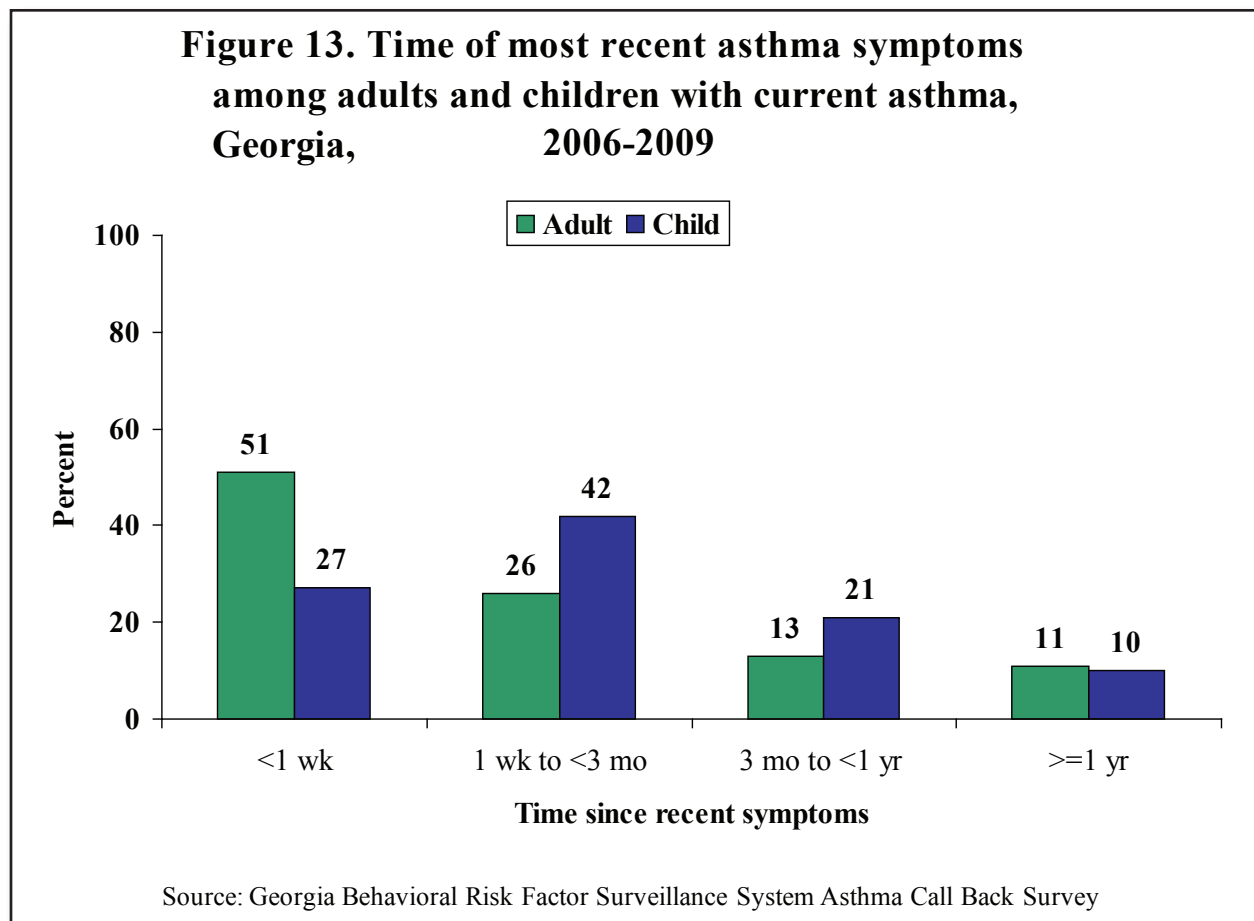
- Forty-five percent (45%) of Georgia adults and 41% of children with current asthma were advised by a health professional to change things in the home, school, or work environments to reduce asthma symptoms.
- The majority of adults and children with current asthma lived in homes where exhaust fans were used in the bathroom or in the kitchen.



ASTHMA SYMPTOMS

Frequency and severity of asthma symptoms are indicators of one's management of asthma. Most asthma symptoms are preventable with appropriate medication, medical care, and self-management¹⁵. Poorly-controlled asthma symptoms result in lost work and/or activities among adults. These indirect costs have profound effects on a person's quality of life as well as an economic impact on individuals, communities, counties, states, and the U.S. It is estimated that indirect costs such as lost productivity amounted to \$5.9 billion nationwide¹⁶.

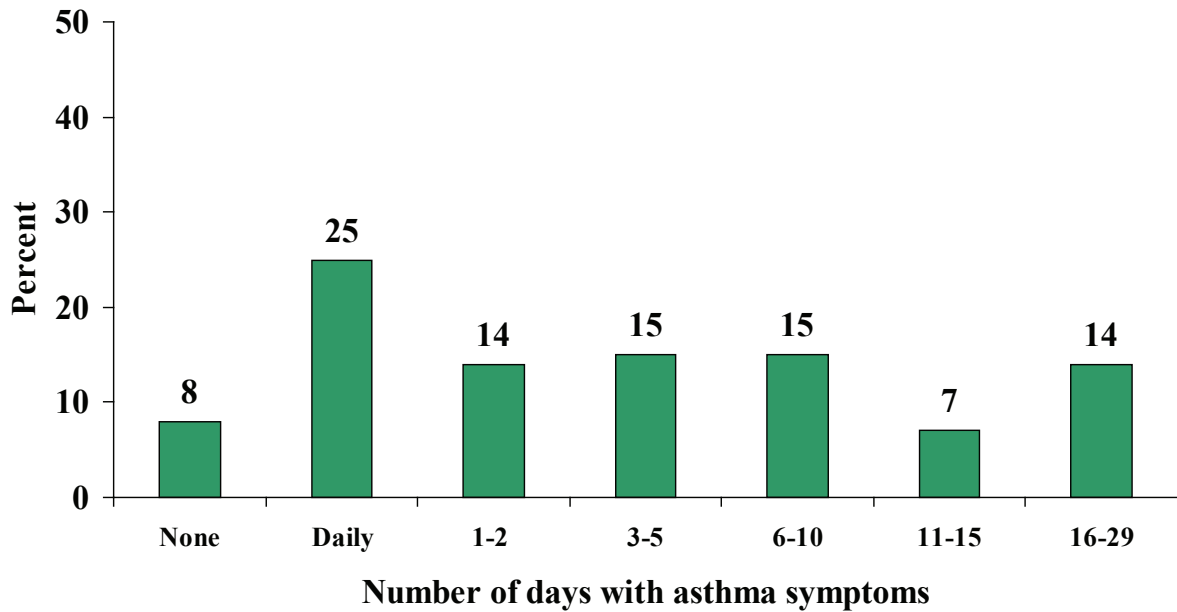
Studies show that children with persistent asthma miss more school days than children without asthma¹⁷. Furthermore, excessive absenteeism is related to lower student grades and lower psychological, social, and educational adjustment¹⁷. Parents or caregivers are also affected, resulting in missed work-days and decreased job productivity¹⁸.



Key Findings

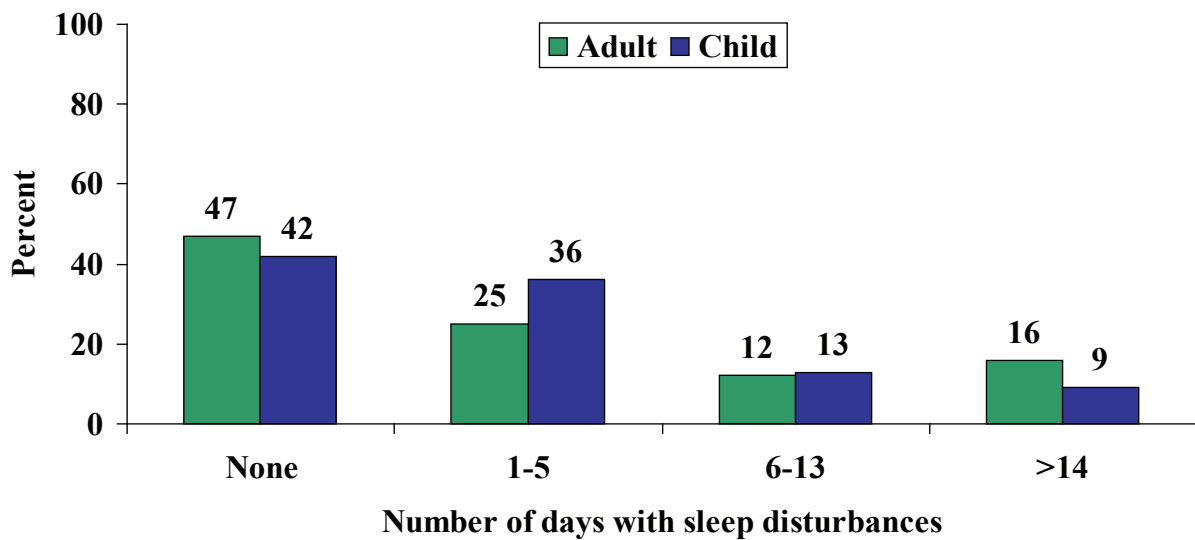
- One in 4 Georgia adults with current asthma had asthma symptoms every day in the past 30 days.
- Twenty-five percent (25%) of adults and 37% of children with current asthma reported loss of sleep for 1-5 nights in the past 30 days.
- Forty-five percent (45%) of Georgia adults with current asthma reported at least one or more days of lost work or usual activities in the past year due to asthma.
- Nearly 60% of Georgia children with current asthma missed one or more days of school in the past year.

Figure 14. Frequency of asthma symptoms in the past 30 days among adults with current asthma, Georgia, 2006-2009



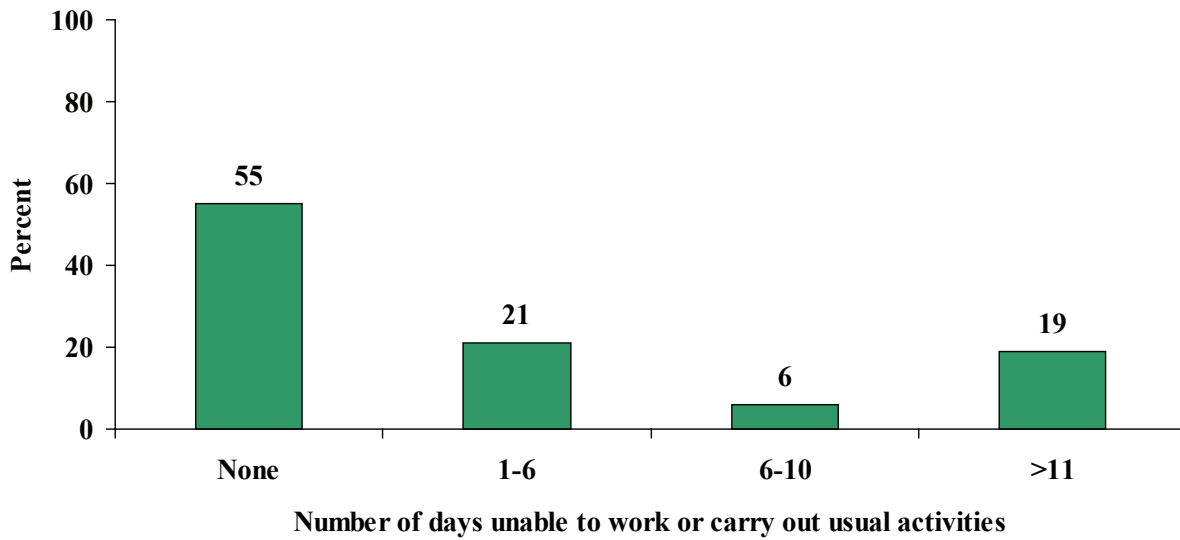
Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Figure 15. Sleep disturbances in the past 30 days due to asthma symptoms among adults and children with current asthma, Georgia, 2006-2009



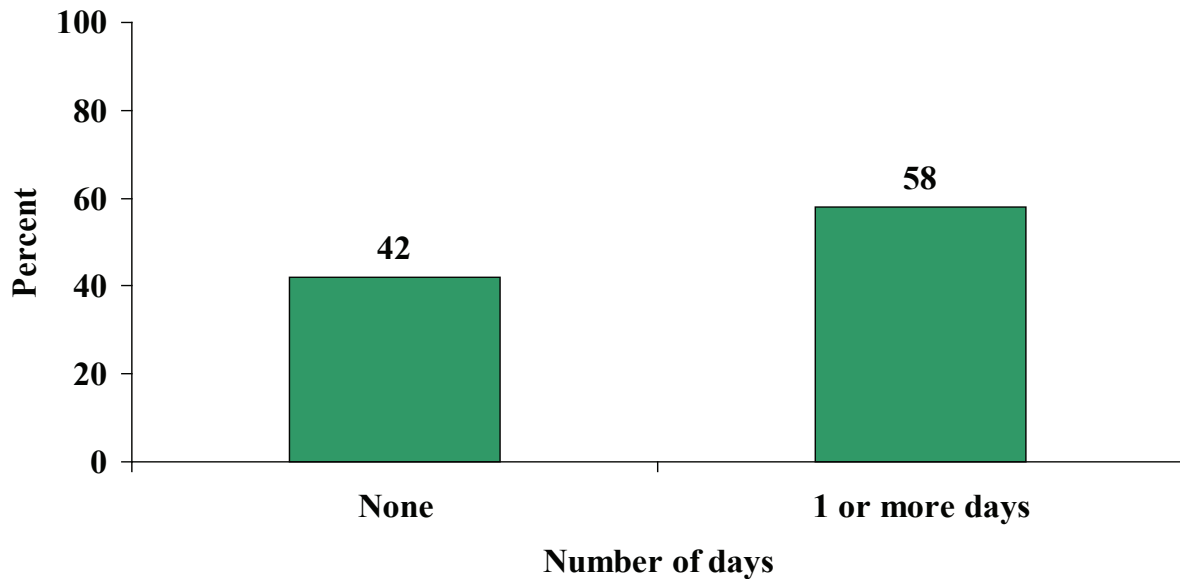
Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Figure 16. Number of days unable to work or carry out usual activities during the past 12 months among adults with current asthma, Georgia, 2006-2009



Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Figure 17. Number of missed school days due to asthma during the past 12 months, school-aged children with current asthma, Georgia, 2006-2009



Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey



ASTHMA MANAGEMENT

Asthma self-management, the direct involvement of patients and their caregivers in strategies to control their disease, is a key component of asthma care. It reduces emergency room (ER) visits, hospitalizations, unscheduled office visits, and asthma-related healthcare costs. Asthma management should begin after a proper diagnosis of the disease. The National Heart, Lung and Blood Institute (NHLBI) *Expert Panel Report 3 (EPR3): Guidelines for the Diagnosis and Management of Asthma*¹⁰ recommends that individuals with asthma should work with their doctor to create an asthma management plan, which can help persons recognize early signs and symptoms of an attack, determine which medicines to take and when to take them, and recognize when to seek medical attention. Asthma cannot be cured, but with proper medications and avoidance of triggers, it can be controlled.

Table 4. Percent of adults and children with current asthma who received asthma management strategies from a doctor or health care provider, Georgia, 2006-2009		
	Adults (%)	Children (%)
Taught what to do during asthma episode or attack	74	78
Taught to recognize early asthma sign or symptoms	67	78
Taught how to use a peak flow meter	44	42
Given asthma action plan	25	44
Taken a course to manage asthma	9	18
Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey		

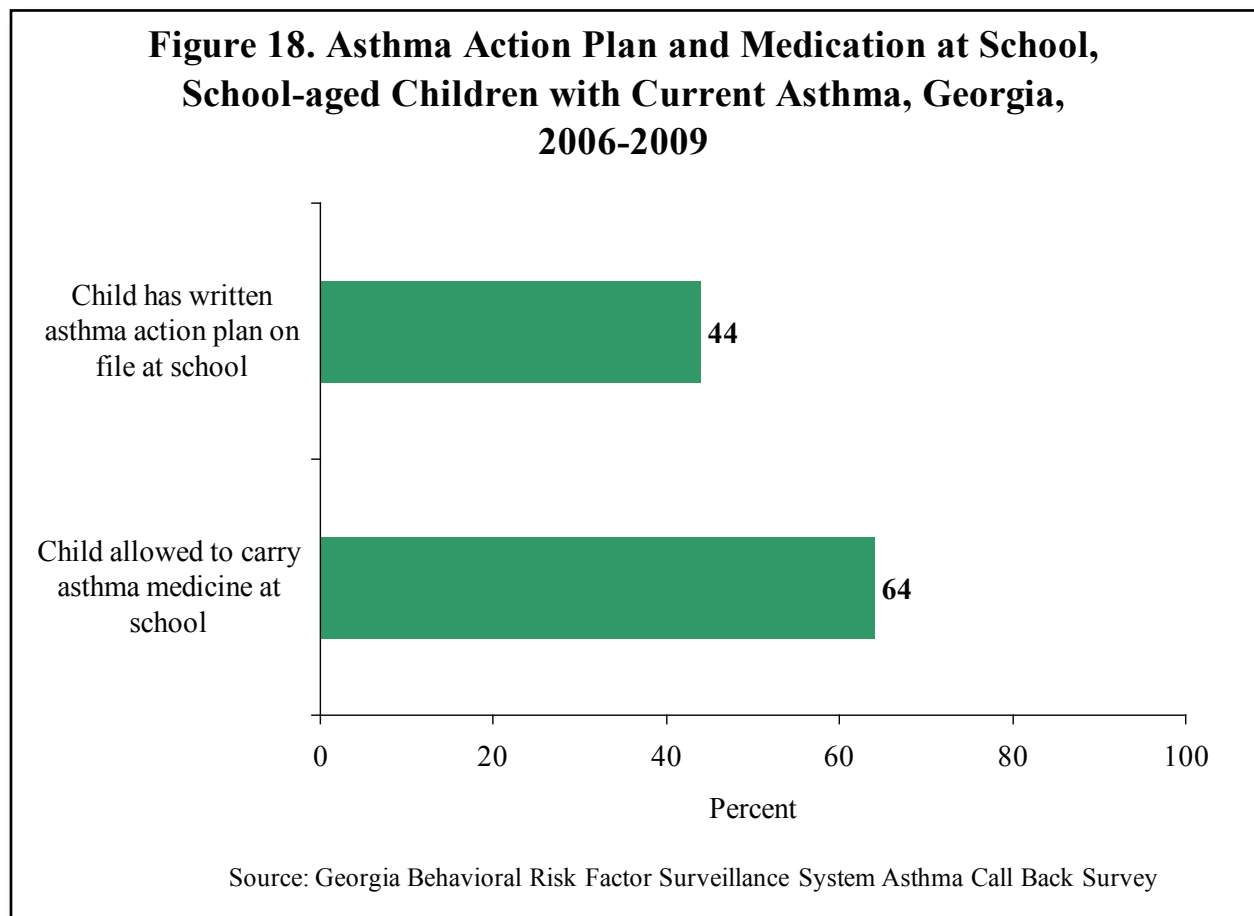
In addition to the home, children with asthma can spend most of their time in child care centers or in school settings. Asthma management for children should include child care providers, teachers, and other school personnel. Schools can help by being supportive of students and staff with asthma; adopting asthma-friendly policies and procedures; coordinating services with physicians, school personnel, patients, and families to serve students with asthma; and providing asthma education for students and staff¹⁹. Many states, including Georgia, have passed legislation that addresses the rights of students to self-administer asthma medication and carry inhalers in schools (*Georgia (OCGA 20-2-774 (2004). A statute authorizing students to self administer asthma medication, pursuant to local adopted school policies).*

The Asthma Call Back Survey (ACBS) (Appendix II) asked children (their parents/guardians answering in proxy) the following questions regarding asthma action plan and medications in schools:

- Does the school he/she goes to allow children with asthma to carry their medication with them while at school?

- Does the child have a written asthma action plan or asthma management plan on file at school?

The intent of the medication question is to measure whether the parents/guardians of the child are aware that their schools allow children to carry asthma medications. It is not the intent of the question to answer how many children are using medications, how many are carrying medications, or how many schools are allowing them to carry medications.



Key Findings: Asthma Management

- Seventy-eight percent (78%) of school-aged children with current asthma were taught to recognize early signs or symptoms of asthma and what to do during an asthma attack.
- About 1 of 11 Georgia adults with current asthma reported taking a course to manage asthma compared to one of 6 Georgia children.
- Sixty-four percent (64%) of the parents/guardians who have school-aged children with asthma knew that they can have asthma medication at school.

Medication Use

According to the National Heart Lung and Blood Institute (NHLBI), there are two categories of asthma prescription medications: long-term (also known as long-term preventive, controller, or maintenance) and quick-relief (also known as relief or rescue). The purpose of the long-term medications is to reduce inflammation in the airways. They should be taken daily to achieve control and prevent asthma attacks. Quick-relief medications provide immediate relief of asthma symptoms. They are used to prevent and treat asthma attacks. People with persistent asthma need both control and quick-relief medications. The most common way to take asthma medications is by inhalers.

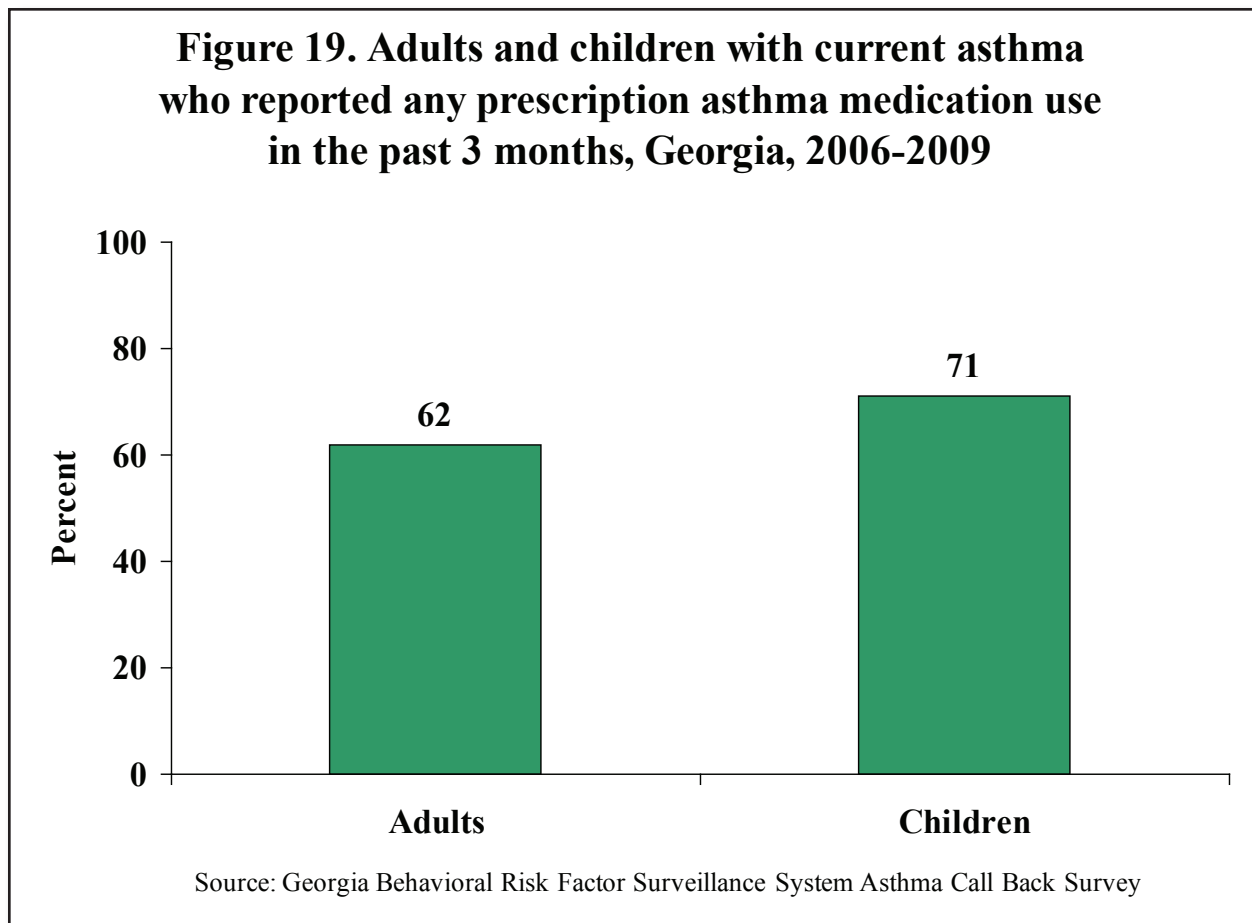
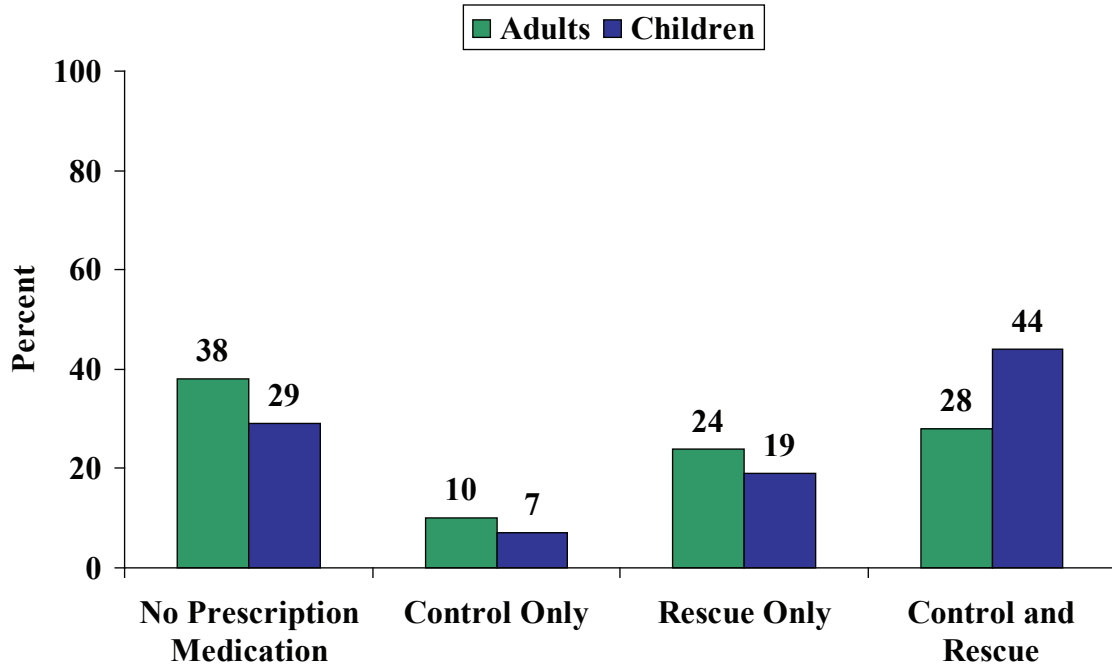
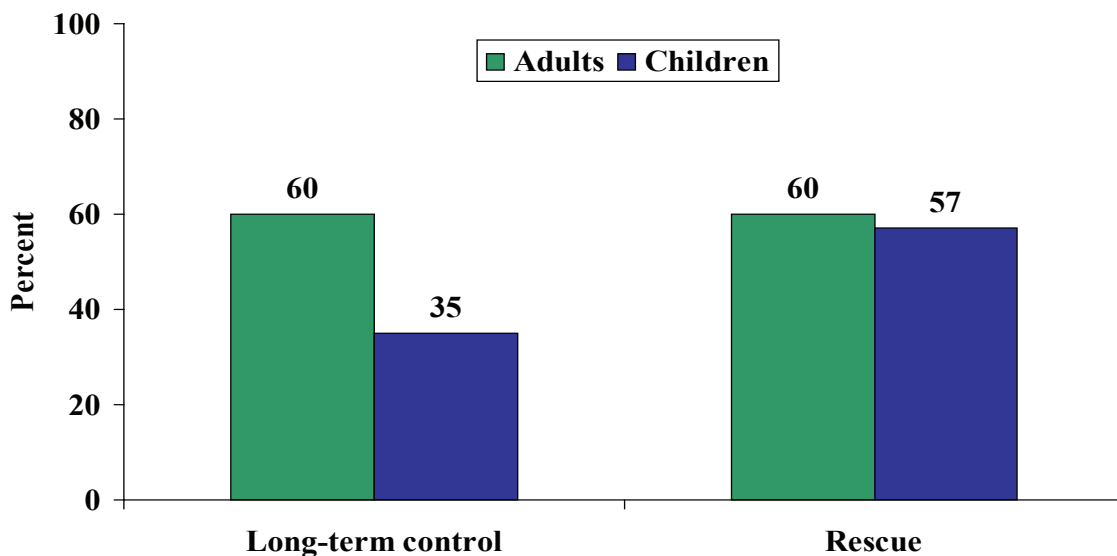


Figure 20. Medication types used by adults and children with current asthma, Georgia, 2006-2009



Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Figure 21. Proper Use* of Inhaled Prescription Asthma Medications in the Past Three Months, Georgia, 2006-2009



**This indicator was generated among individuals with current asthma who reported using inhaled asthma medications in the past three months.*

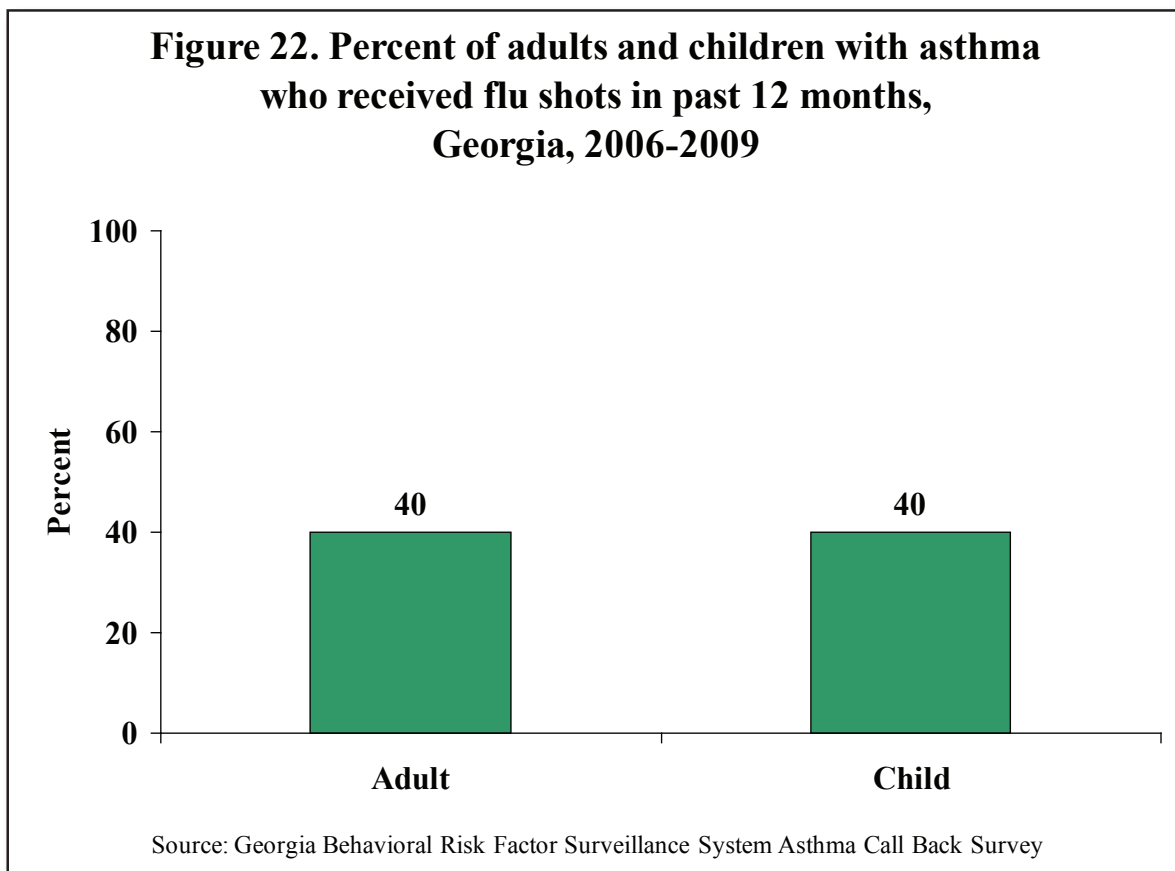
Source: Georgia Behavioral Risk Factor Surveillance System Asthma Call Back Survey

Key Findings: Medication Use

- Thirty-eight percent (38%) of Georgia adults and 29% of children with current asthma do not use asthma prescription medications. The NHLBI recommends that prescription medications should be part of an asthma self-management plan.
- Ten percent (10%) of Georgia adults and 7% of children with current asthma use control medications only. The NHLBI recommends that control medications be used daily to achieve control and prevent asthma attacks.
- A higher percent of adults (24%) than children (19%) with current asthma use rescue medications only.
- Sixty percent (60%) of Georgia adults with current asthma properly used inhaled long-term and rescue medications. Only 35% of children with current asthma used inhaled control medication properly.
- There are many reasons for the underuse of asthma medication, especially among children. Studies have shown that parents have concerns regarding their children's use of daily controller medicines, for example, regarding side effects such as growth retardation²⁰.

Flu Vaccination

Adults and children with asthma are at an increased risk of having complications from flu virus infections. The flu virus can increase the inflammation of the airways and lungs. This can lead to pneumonia and other acute respiratory diseases. Asthma is the most-common medical condition among children and adults hospitalized with the flu²¹. According to a study by the CDC, only one-third of all asthmatic adults and one-fifth of asthmatic adults younger than 50 years of age receive the flu vaccine annually in the United States²². The U.S. Department of Health & Human Services recommends that getting the seasonal and other recommended flu shots (not nasal spray) is the best protection against influenza infection Flu.gov.



Key Finding

- Markedly less than half of Georgia adults and children with current asthma received seasonal flu shots.



AMBULANCE
ENTRANCE



ASTHMA MORBIDITY

Asthma severity can be measured by emergency room (ER) visit and hospitalization rates. Asthma was one of the top 20-leading diagnoses for ER visits during 2008 in the United States²³. Furthermore, the rates of hospitalizations and deaths due to asthma are both 3 times higher among African Americans than among whites²⁴. Children have twice the rate of emergency department visits and hospitalizations for asthma as adults²⁴.

In Georgia, there were approximately 154,000 asthma-related ER visits from 2006 to 2010, an average of 51,000 visits per year. The overall rate of ER visits due to asthma was 530 per 100,000 population. During the same period, there were more than 54,000 asthma-related hospital discharges, an average of 10,800 discharges per year. The overall annual rate of hospitalizations due to asthma in Georgia was 113 per 100,000 population.

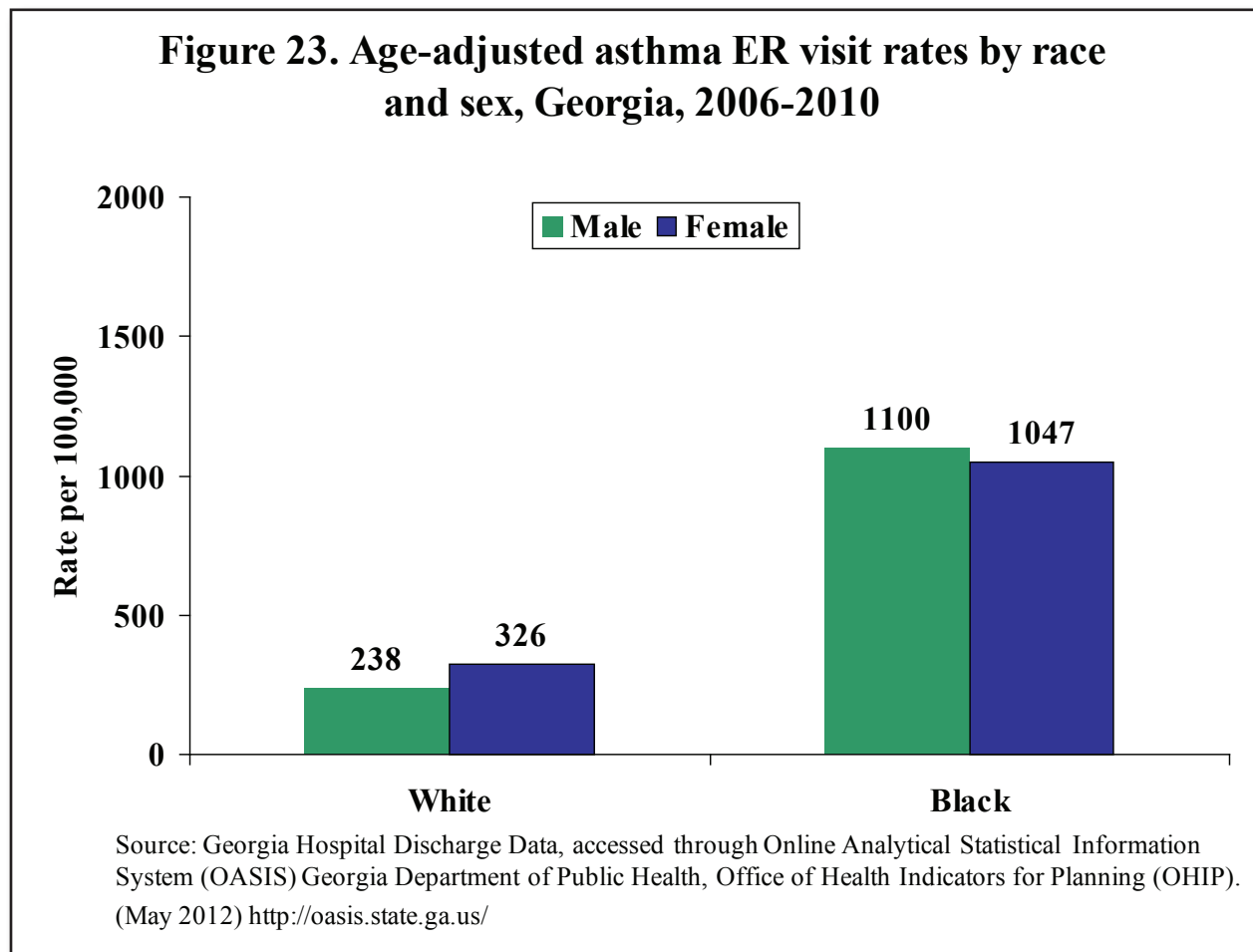
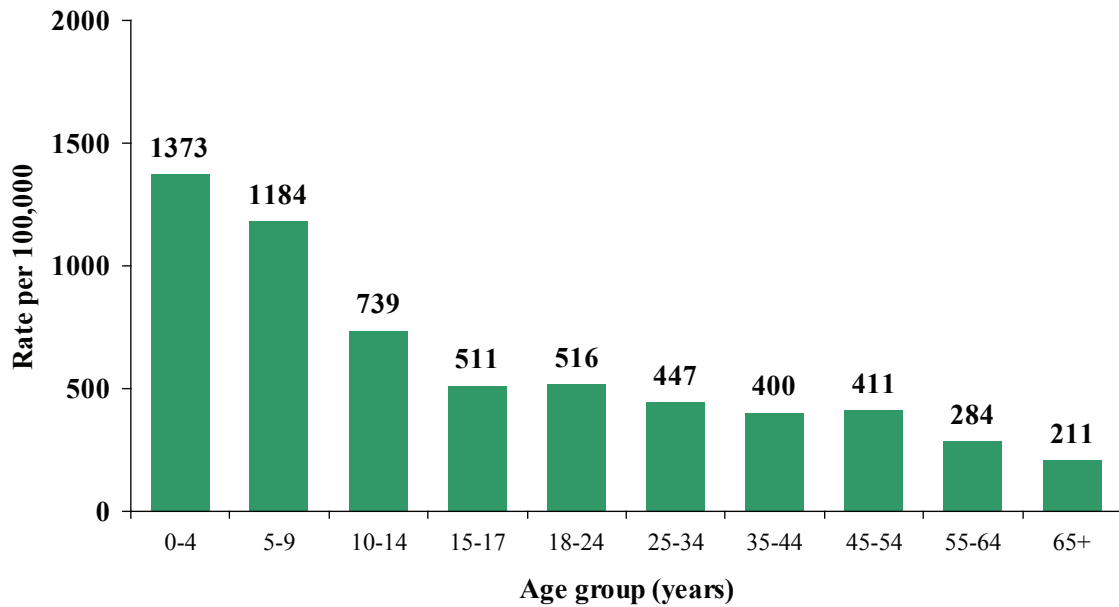
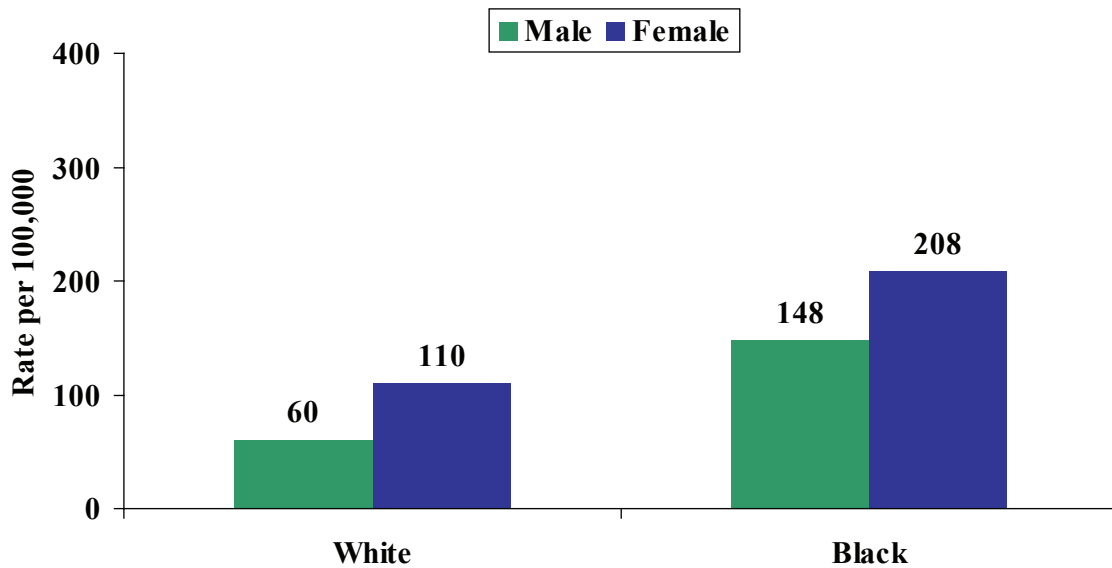


Figure 24. Asthma ER visit rates by age group, Georgia, 2006-2010



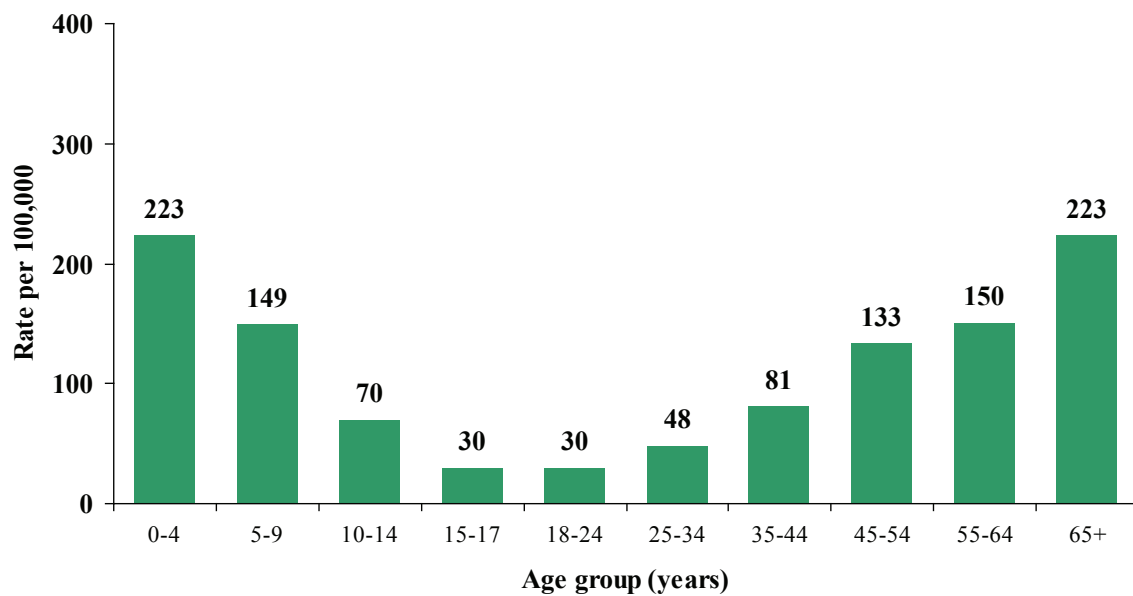
Source: Georgia Hospital Discharge Data, accessed through Online Analytical Statistical Information System (OASIS) Georgia Department of Public Health, Office of Health Indicators for Planning (OHIP). (May 2012) <http://oasis.state.ga.us/>

Figure 25. Age-adjusted asthma hospitalization rates by race and sex, Georgia, 2006-2010



Source: Georgia Hospital Discharge Data, accessed through Online Analytical Statistical Information System (OASIS) Georgia Department of Public Health, Office of Health Indicators for Planning (OHIP). (May 2012) <http://oasis.state.ga.us/>

Figure 26. Age-specific asthma hospitalization rates, Georgia, 2006-2010



Source: Georgia Hospital Discharge Data, accessed through Online Analytical Statistical Information System (OASIS) Georgia Department of Public Health, Office of Health Indicators for Planning (OHIP). (May 2012) <http://oasis.state.ga.us/>

Key Findings: Asthma Morbidity

- Black males and females with current asthma have significantly higher ER visit and hospitalization rates than white males and females with current asthma.
- ER visit rates are highest among Georgian children with current asthma who are 0 to 4 years old. ER visit rates decrease as age increases.
- Children 0 to 4 years old and older adults (65+ years) have higher asthma-related hospitalization rates than other age groups.



Asthma Mortality

Asthma mortality is lower than ER visits and hospitalization in the U.S. However, according to the National Asthma Education and Prevention Program (NAEPP), the mortality rate has risen over the past 20 years, especially in Blacks and individuals aged 85 years and older. In Georgia, an average of 104 asthma-related deaths occurred per year (1.3 deaths per 100,000 population) from 2000 to 2008. The mortality rate was disproportionately higher among Blacks (2.0 per 100,000) and older adults aged 65 years and older (5.2 per 100,000).

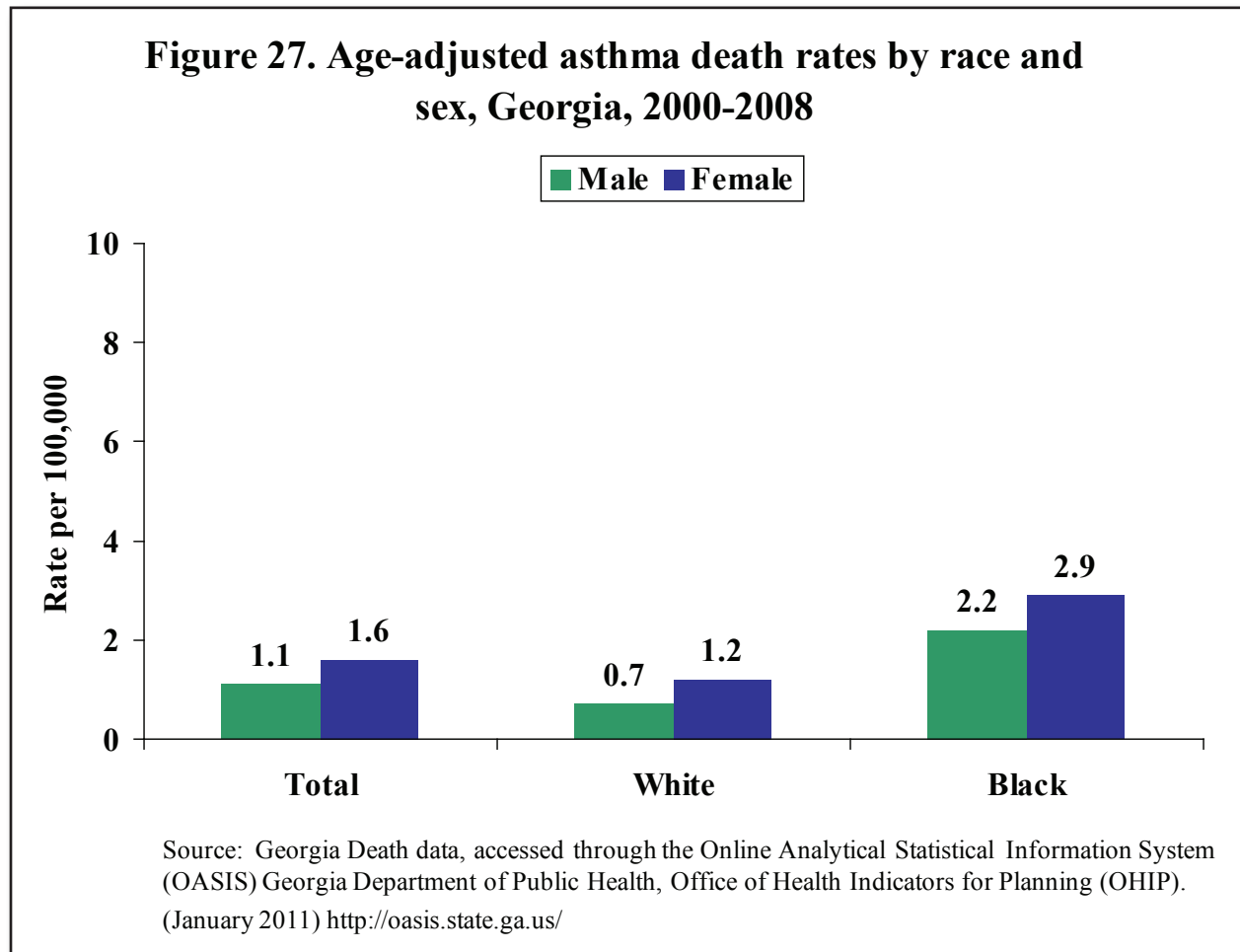
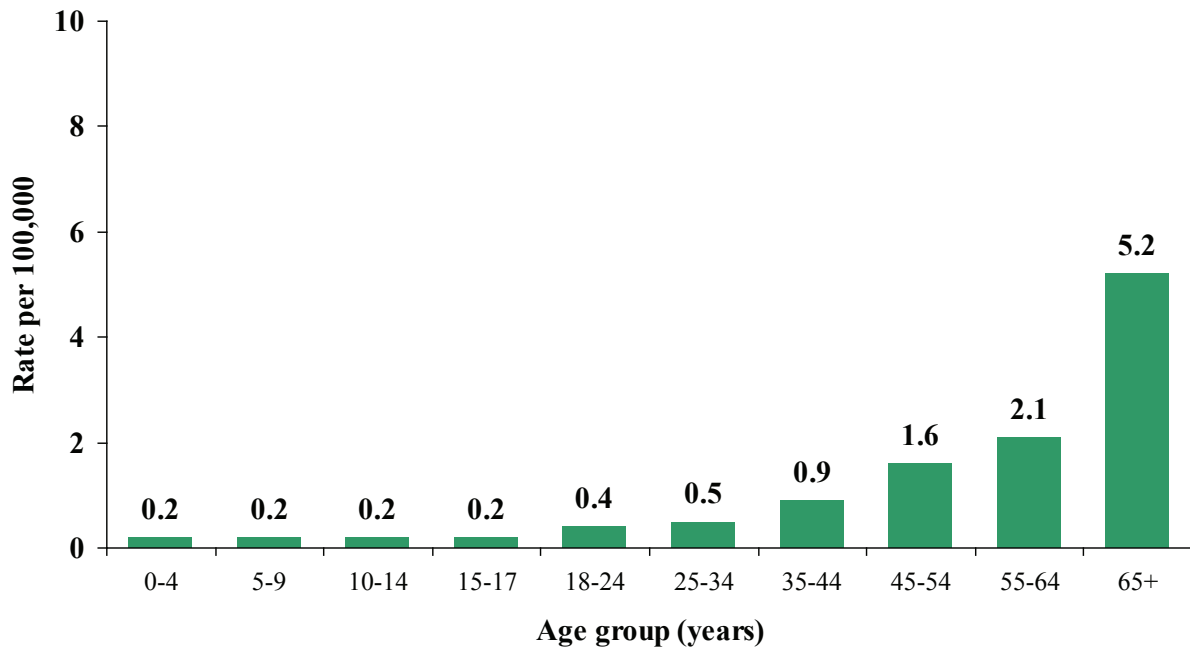


Figure 28. Age-specific asthma death rates, Georgia, 2000-2008



Source: Georgia Death data, accessed through the Online Analytical Statistical Information System (OASIS) Georgia Department of Public Health, Office of Health Indicators for Planning (OHIP). (January 2011) <http://oasis.state.ga.us/>

Key Findings

- In Georgia, Blacks (age-adjusted death rate of 2.6 per 100,000) were almost three times more likely to die from asthma than whites (age-adjusted death rate of 1.0 per 100,000).
- Females (age-adjusted death rate of 1.7 per 100,000) were 1.6 times more likely to die from asthma than males (age-adjusted rate of 1.1 per 100,000) but this differences was not statistically significant.
- In Georgia, individuals aged 65 years and older had the highest asthma death rate.

CONCLUSIONS

Asthma is a major public health concern in Georgia, as it is in the United States. In Georgia, 9% of children aged 0-17 years, 11% of both middle and high school students, and 8% of adults reported currently having asthma in 2010. This report shows that asthma affects all age, race, and sex groups in Georgia, but certain groups are disproportionately affected. Blacks and women are more likely to visit the ER, be hospitalized, and die from asthma than Whites and men. Asthma hospitalizations are highest among the oldest and youngest age groups. Death rates are about 25 times higher for the elderly (65 years of age and older) than for the younger age groups (0 to 4 years and 5 to 24 years).

People with asthma in Georgia can live normal, active, healthy lives by knowing the common asthma triggers and reducing their exposure to them, especially triggers specific to their asthma. Individuals with asthma need to work with their doctor to create an asthma management plan that will tell them what triggers their asthma symptoms, how to avoid triggers and reduce exposure, what medicines to take and when to take them, and when to seek medical help. People with asthma must work with their doctor to understand instructions for their medications and take them as scheduled. If the medications are taken as scheduled and are not working, they should let their physicians know and discuss revisions that may be needed.

Asthma education, proper treatment and management, policy changes, and modification of risk factors will help reduce the frequency and severity of asthma attacks in individuals with asthma, and possibly delay or prevent the development of asthma in individuals without asthma. These actions will ultimately reduce the burden of asthma in Georgia and improve the quality of life for Georgians with asthma, as well as their families, and society at large.

Georgia Asthma Control Program

In 2001, the Centers for Disease Control and Prevention (CDC) awarded a grant to the Georgia Department of Public Health (DPH) to create and implement a statewide strategic plan to address asthma. DPH then established the Georgia Asthma Control Program (GACP). In 2009, GACP received additional funding from CDC to participate in a nationwide initiative to reduce the burden of asthma and improve the health and quality of life for all persons affected by asthma through effective control of the disease. The following are the five-year goals of the program:

- Enhance Georgia's capacity to address asthma management and treatment at the state and local levels.
- Enhance the state's surveillance and evaluation capacity for tracking asthma morbidity and mortality and evaluating program effectiveness.
- Reduce Georgia's emergency room visits due to asthma.
- Reduce Georgia's asthma hospitalization rate.
- Reduce asthma deaths.
- Reduce asthma prevalence in populations disproportionately affected by asthma.
- Increase the proportion of people with current asthma that report they have received asthma self-management education.
- Increase the proportion of people with asthma who received appropriate asthma care according to the National Asthma Education and Prevention Program Guidelines.

Surveillance is a key component to guide the asthma program in its efforts. Since 2001, two surveillance reports have been produced--the **2003 Burden of Asthma in Georgia** and the **2007 Georgia Asthma Surveillance Report**

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APPENDIX I:

Data Tables

Table 1. Prevalence of current asthma among adults 18+ years, by Georgia Public Health Districts, 2006-2010	
Health District	Percent
Georgia	7.7
(1-1) Northwest (Rome)	8.7
(1-2) North Georgia (Dalton)	7.2
(2-0) North (Gainesville)	6.9
(3-1) Cobb/Douglas	8.1
(3-2) Fulton	7.7
(3-3) Clayton	8.8
(3-4) East Metro (Lawrenceville)	7.6
(3-5) DeKalb	7.0
(4-0) LaGrange	8.5
(5-1) South Central (Dublin)	9.7
(5-2) North Central (Macon)	8.1
(6-0) East Central (Augusta)	8.6
(7-0) West Central (Columbus)	6.5
(8-1) South (Valdosta)	6.8
(8-2) Southwest (Albany)	7.0
(9-1) East (Savannah)	7.0
(9-2) Southeast (Waycross)	7.1
(10-0) Northeast (Athens)	7.5

**Table 2. Prevalence of current asthma among children 0-17 years,
by Georgia Public Health Districts, 2006-2010**

Health District	Percent
Georgia	10.2
(1-1) Northwest (Rome)	10.3
(1-2) North Georgia (Dalton)	9.7
(2-0) North (Gainesville)	10.2
(3-1) Cobb/Douglas	8.7
(3-2) Fulton	10.0
(3-3) Clayton	14.2
(3-4) East Metro (Lawrenceville)	9.7
(3-5) DeKalb	11.9
(4-0) LaGrange	8.7
(5-1) South Central (Dublin)	13.0
(5-2) North Central (Macon)	9.1
(6-0) East Central (Augusta)	11.2
(7-0) West Central (Columbus)	9.4
(8-1) South (Valdosta)	14.1
(8-2) Southwest (Albany)	11.4
(9-1) East (Savannah)	9.1
(9-2) Southeast (Waycross)	12.2
(10-0) Northeast (Athens)	10.1

Table 3. Annual number of asthma ER visits and age-adjusted ER visit rates by public health districts and counties, Georgia 2006-2010		
Health Districts, Counties	Average Number of ER Visits (per year)	Age-adjusted ER Visit Rate/100,000
Northwest Health District (Rome)	2191	352.6
Bartow	455	469.4
Catoosa	70	114.5
Chattooga	62	255.2
Dade	8	49.5*
Floyd	427	456.6
Gordon	141	264.1
Haralson	149	529.2
Paulding	551	386.8
Polk	220	524.6
Walker	107	171.6
North Georgia Health District (Dalton)	1274	295.7
Cherokee	613	283.2
Fannin	45	231
Gilmer	70	258.1
Murray	182	446.1
Pickens	96	343.4
Whitfield	268	285.9
North Health District (Gainesville)	1895	314
Banks	50	300.6
Dawson	60	285.3
Forsyth	418	242.2
Franklin	79	378.1
Habersham	118	283.9
Hall	627	337.7
Hart	103	455.7
Lumpkin	74	282.1
Rabun	64	431.9
Stephens	107	449.6
Towns	41	430.9
Union	73	398.8
White	80	334.5

* Rate for county with less than 15 ER visits are unstable.

Table 3. Annual number of asthma ER visits and age-adjusted ER visit rates by Public Health Districts and cCounties, Georgia 2006-2010		
Health Districts, Counties	Average Number of ER Visits (per year)	Age-adjusted ER Visit Rate/100,000
Cobb/Douglas Health District	3759	446.1
Cobb	3018	426.6
Douglas	740	553.1
Fulton Health District	8083	820.8
Fulton	8083	820.8
Clayton County Health District (Jonesboro)	1925	663.7
Clayton	1925	663.7
East Metro Health District (Lawrenceville)	4565	444.6
Gwinnett	3612	430.9
Newton	545	531.4
Rockdale	408	487.7
DeKalb Health District	5564	772.2
DeKalb	5564	772.2
LaGrange Health District	3615	458.8
Butts	130	542.2
Carroll	544	482.9
Coweta	463	369.1
Fayette	321	339.1
Heard	46	402.6
Henry	736	365.4
Lamar	109	640.7
Meriwether	88	402.2
Pike	66	384.3
Spalding	488	773.7
Troup	364	567.9
Upson	260	985
South Central Health District (Dublin)	745	525.1
Bleckley	53	458.1
Dodge	114	574
Johnson	44	485.5
Laurens	309	666.9
Montgomery	37	416.6
Pulaski	46	463
Telfair	60	457.3
Treutlen	28	408.7
Wheeler	17	260
Wilcox	37	438.2

* Rate for county with less than 15 ER visits are unstable.

Table 3. Annual number of asthma ER visits and age-adjusted ER visit rates by public health districts and counties, Georgia 2006-2010

Health Districts, Counties	Average Number of ER Visits (per year)	Age-adjusted ER Visit Rate/100,000
North Central Health District (Macon)	2828	555.7
Baldwin	264	613.4
Bibb	884	569.2
Crawford	52	421.6
Hancock	55	603.6
Houston	717	525.8
Jasper	85	624
Jones	87	326.4
Monroe	128	515.5
Peach	242	916.6
Putnam	99	525.5
Twiggs	44	450.5
Washington	125	610.4
Wilkinson	49	501.1
East Central Health District (Augusta)	3328	739
Burke	232	977.5
Columbia	287	254
Emanuel	119	522.7
Glascocock	9	353.7*
Jefferson	154	935.9
Jenkins	125	1,487.70
Lincoln	26	366.2
McDuffie	160	727.8
Richmond	1978	983.2
Screven	139	965.2
Taliaferro	8	519.2*
Warren	37	669.2
Wilkes	52	526.3

* Rate for county with less than 15 ER visits are unstable.

Table 3. Annual number of asthma ER visits and age-adjusted ER visit rates by public health districts and counties, Georgia 2006-2010		
Health Districts	Average Number of ER Visits (per year)	Age-adjusted ER Visit Rate/100,000
West Central Health District (Columbus)	2175	608.3
Chattahoochee	22	283.9
Clay	7	240.4*
Crisp	147	665.5
Dooly	70	575.9
Harris	68	232.5
Macon	94	705.9
Marion	26	346.5
Muscogee	1355	717.9
Quitman	4	174.9*
Randolph	85	1,181.90
Schley	33	784.8
Stewart	13	310.4*
Sumter	158	494.1
Talbot	25	408.4
Taylor	60	686.1
Webster	8	345.8*
South Health District (Valdosta)	1284	517.2
Ben Hill	126	710
Berrien	93	540.8
Brooks	104	649.8
Cook	110	664.4
Echols	10	248.2*
Irwin	44	475.8
Lanier	59	686.5
Lowndes	537	507.4
Tift	170	402
Turner	31	349.4

* Rate for county with less than 15 ER visits are unstable.

Table 3. Annual number of asthma ER visits and age-adjusted ER visit rates by Ppublic Hhealth Ddistricts and Ccounties, Georgia 2006-2010

Health Districts, Counties	Average Number of ER Visits (per year)	Age-adjusted ER Visit Rate/100,000
Southwest Health District (Albany)	2431	672.6
Baker	17	487.1
Calhoun	65	1,103.90
Colquitt	277	598.7
Decatur	163	581.3
Dougherty	788	824.1
Early	102	853.4
Grady	156	623
Lee	86	270.9
Miller	45	775.5
Mitchell	189	798.8
Seminole	36	406.5
Terrell	62	608.7
Thomas	293	675.9
Worth	152	753.9
Southeast Health District (Waycross)	2041	583.7
Appling	40	230.7
Atkinson	40	456.2
Bacon	65	617.1
Brantley	57	357.9
Bulloch	350	557
Candler	93	872.9
Charlton	42	400
Clinch	41	594.9
Coffee	288	686.5
Evans	83	718.2
Jeff Davis	27	192
Pierce	106	585.2
Tattnall	130	555
Toombs	189	673.9
Ware	362	1,050.70
Wayne	127	439.6

* Rate for county with less than 15 ER visits are unstable.

Table 3. Annual number of asthma ER visits and age-adjusted ER visit rates by public health districts and counties, Georgia 2006-2010		
Health Districts, Counties	Average Number of ER Visits (per year)	Age-adjusted ER Visit Rate/100,000
Coastal Health District (Savannah)	3206	580.8
Bryan	97	311.3
Camden	361	717.1
Chatham	1769	707.9
Effingham	151	288
Glynn	391	538.8
Liberty	362	559.5
Long	41	312.9
McIntosh	34	309.3
Northeast Health District (Athens)	1746	385.9
Barrow	279	391.7
Clarke	460	469.1
Elbert	103	519.5
Greene	116	815
Jackson	199	330.1
Madison	81	303.1
Morgan	72	410.4
Oconee	54	169
Oglethorpe	39	288
Walton	343	404

* Rate for county with less than 15 ER visits are unstable.

Table 4. Annual number of asthma hospitalizations and age-adjusted hospitalization rates by public health districts and counties, Georgia 2006-2010		
Health Districts, Counties	Average Number of Hospitalizations (per year)	Age-adjusted Hospitalization Rate/100,000
Northwest Health District (Rome)	485	78.3
Bartow	110	119
Catoosa	19	30.4
Chattooga	18	65.7
Dade	3	13.4*
Floyd	80	81.9
Gordon	39	73.1
Haralson	22	78.1
Paulding	130	100.6
Polk	38	89.7
Walker	26	38
North Georgia Health District (Dalton)	373	88.8
Cherokee	134	68.3
Fannin	16	67.3
Gilmer	29	92.3
Murray	68	177.2
Pickens	30	96.4
Whitfield	96	101.1
North Health District (Gainesville)	436	71.2
Banks	15	84.9
Dawson	15	68.4
Forsyth	103	67.1
Franklin	31	145
Habersham	35	81.5
Hall	107	62.5
Hart	17	65.8
Lumpkin	16	62.8
Rabun	15	82.8
Stephens	54	224.9
Towns	5	46.8*
Union	8	33.8*
White	16	63.9

*Rate for county with less than 15 number of hospitalizations are unstable

Table 4. Annual number of asthma hospitalizations and age-adjusted hospitalization rates by public health districts and counties, Georgia 2006-2010

Health Districts	Average Number of Hospitalizations (per year)	Age-adjusted Hospitalization Rate/100,000
Cobb/Douglas Health District	680	85.2
Cobb	542	80.2
Douglas	138	115.1
Fulton Health District	1,138	121.1
Fulton	1,138	121.1
Clayton County Health District (Jonesboro)	262	100.9
Clayton	262	100.9
East Metro Health District (Lawrenceville)	910	108.7
Gwinnett	732	113.3
Newton	101	108.1
Rockdale	78	92.9
DeKalb Health District	882	126.2
DeKalb	882	126.2
LaGrange Health District	761	99
Butts	29	121.4
Carroll	86	80.1
Coweta	88	73
Fayette	47	46.7
Heard	11	92.8*
Henry	120	64.2
Lamar	27	157.6
Meriwether	26	105.1
Pike	23	133.1
Spalding	125	195.7
Troup	120	184.4
Upson	58	214.3
South Central Health District (Dublin)	352	246.4
Bleckley	29	249.5
Dodge	35	170.8
Johnson	22	245
Laurens	151	308.4
Montgomery	12	140.6*
Pulaski	27	281.9
Telfair	25	184.3
Treutlen	19	273.5
Wheeler	8	113*
Wilcox	24	311.4

*Rate for county with less than 15 number of hospitalizations are unstable

Table 4. Annual number of asthma hospitalizations and age-adjusted hospitalization rates by public health districts and counties, Georgia 2006-2010

Health Districts, Counties	Average Number of Hospitalizations (per year)	Age-adjusted Hospitalization Rate/100,000
North Central Health District (Macon)	711	137.1
Baldwin	61	140.4
Bibb	227	143
Crawford	13	100.9*
Hancock	16	172.5
Houston	182	136
Jasper	10	74.1*
Jones	30	103.6
Monroe	25	93.2
Peach	46	179.5
Putnam	17	71.7
Twiggs	16	152.5
Washington	47	230.3
Wilkinson	21	201.7
East Central Health District (Augusta)	605	133.3
Burke	41	177.5
Columbia	83	75
Emanuel	40	166
Glascocock	3	116.8*
Jefferson	39	222
Jenkins	15	174.6
Lincoln	7	93.9*
McDuffie	27	116.4
Richmond	300	151.5
Screven	26	165.5
Taliaferro	2	108.1*
Warren	6	91.7*
Wilkes	16	144.7

**Rate for county with less than 15 number of hospitalizations are unstable*

Table 4. Annual number of asthma hospitalizations and age-adjusted hospitalization rates by public health districts and counties, Georgia 2006-2010

Health Districts, Counties	Average Number of Hospitalizations (per year)	Age-adjusted Hospitalization Rate/100,000
West Central Health District (Columbus)	419	115.3
Chattahoochee	5	79.2*
Clay	*	*
Crisp	50	219.4
Dooly	32	262.1
Harris	21	67.1
Macon	28	204.3
Marion	7	73.1*
Muscogee	207	109
Quitman	2	55.7*
Randolph	9	107.2
Schley	5	111.1*
Stewart	6	124.1*
Sumter	27	82.6
Talbot	6	80.8*
Taylor	13	141.4*
Webster	*	*
South Health District (Valdosta)	450	184.9
Ben Hill	39	212
Berrien	39	216.7
Brooks	29	172.8
Cook	43	259.9
Echols	4	140.8*
Irwin	22	224.4
Lanier	12	133.8*
Lowndes	160	167.9
Tift	85	197.5
Turner	15	165.4

**Rate for county with less than 15 number of hospitalizations are unstable*

Table 4. Annual number of asthma hospitalizations and age-adjusted hospitalization rates by public health districts and counties, Georgia 2006-2010

Health Districts	Average Number of Hospitalizations (per year)	Age-adjusted Hospitalization Rate/100,000
Southwest Health District (Albany)	614	165.3
Baker	3	73
Calhoun	17	263.4
Colquitt	66	145.4
Decatur	59	206
Dougherty	190	197.5
Early	17	140.2
Grady	37	142.1
Lee	21	74.6
Miller	15	224.1
Mitchell	36	146.2
Seminole	31	327.6
Terrell	17	162.9
Thomas	64	131
Worth	41	193.3
Southeast Health District (Waycross)	628	182
Appling	39	211.6
Atkinson	21	265.2
Bacon	21	192.8
Brantley	16	103.8
Bulloch	63	114.3
Candler	31	268.9
Charlton	5	48
Clinch	16	231.6
Coffee	100	249.6
Evans	27	224.9
Jeff Davis	47	337.2
Pierce	31	164.2
Tattnall	43	187.4
Toombs	57	195.7
Ware	68	180
Wayne	42	141.7

**Rate for county with less than 15 number of hospitalizations are unstable*

Table 4. Annual number of asthma hospitalizations and age-adjusted hospitalization rates by public health districts and counties, Georgia 2006-2010

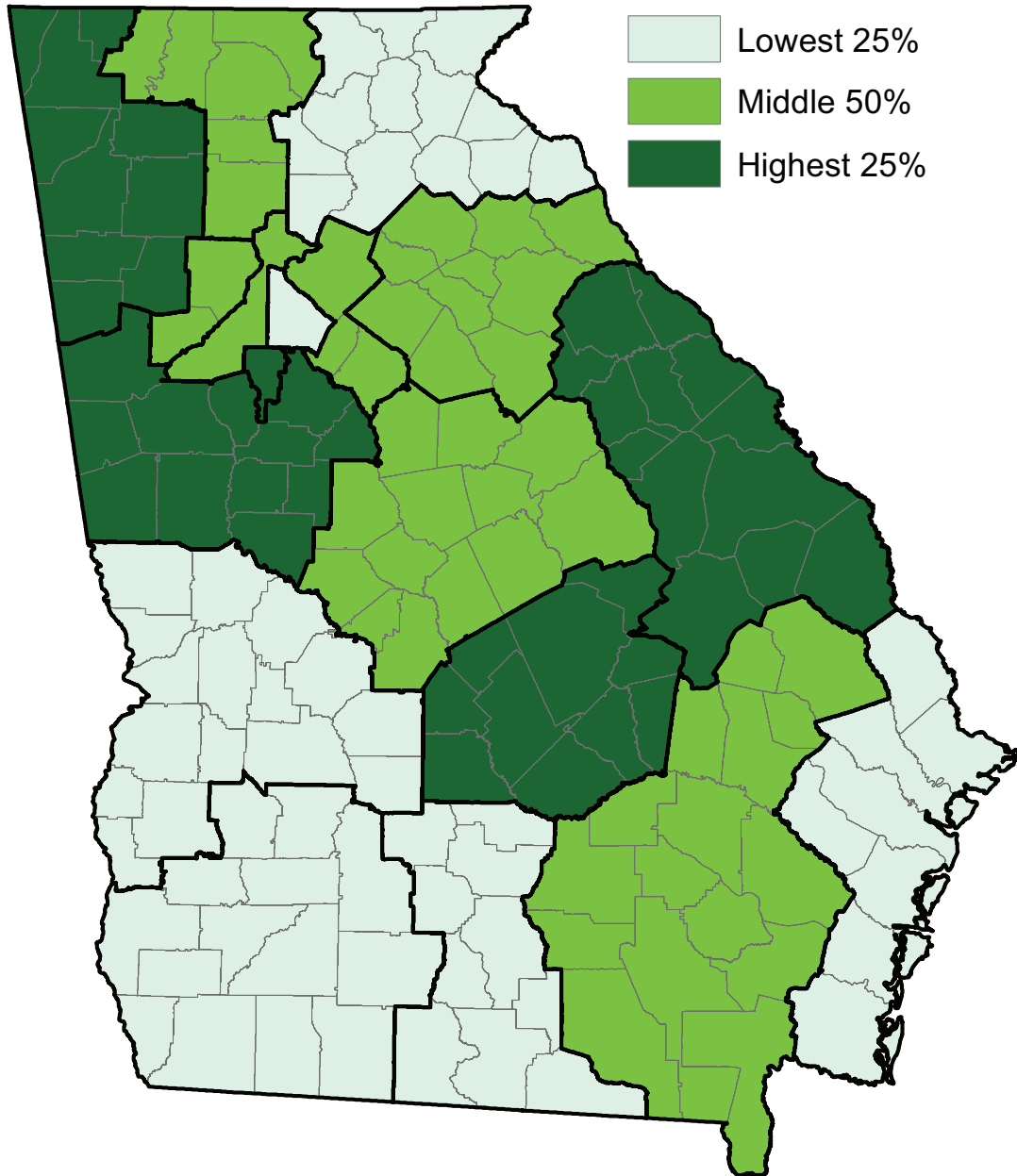
Health Districts	Average Number of Hospitalizations (per year)	Age-adjusted Hospitalization Rate/100,000
Coastal Health District (Savannah)	627	115.8
Bryan	24	95.1
Camden	30	64.9
Chatham	329	130.6
Effingham	42	87.6
Glynn	118	150.6
Liberty	65	122.3
Long	8	72.5
McIntosh	11	92.8
Northeast Health District (Athens)	514	118.1
Barrow	109	164.7
Clarke	109	126.5
Elbert	27	117.7
Greene	20	129.7
Jackson	69	115.8
Madison	35	125.4
Morgan	13	66.5
Oconee	20	64.2
Oglethorpe	14	104.2
Walton	97	116.8

**Rate for county with less than 15 number of hospitalizations are unstable*

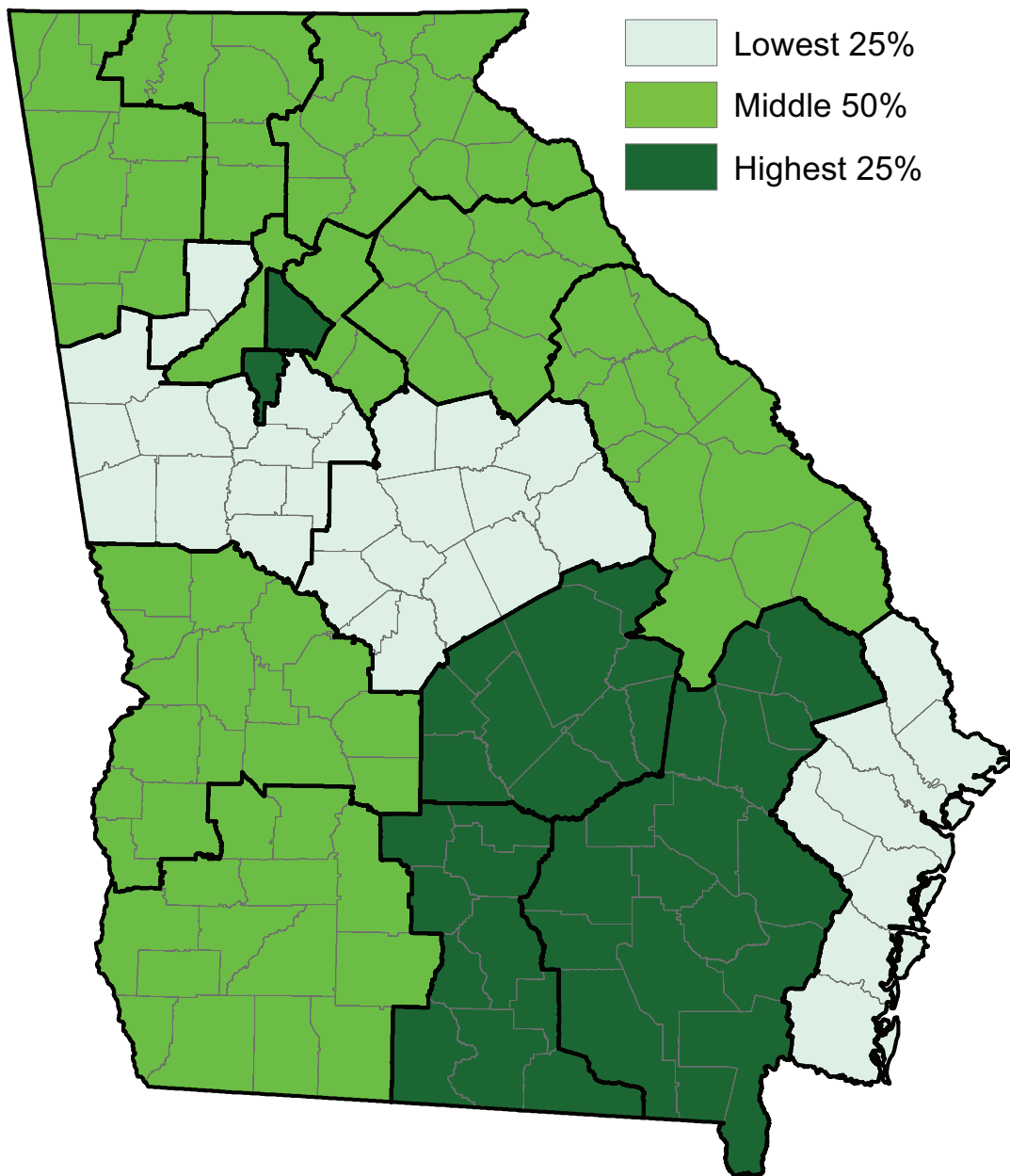
APPENDIX ii:

Maps

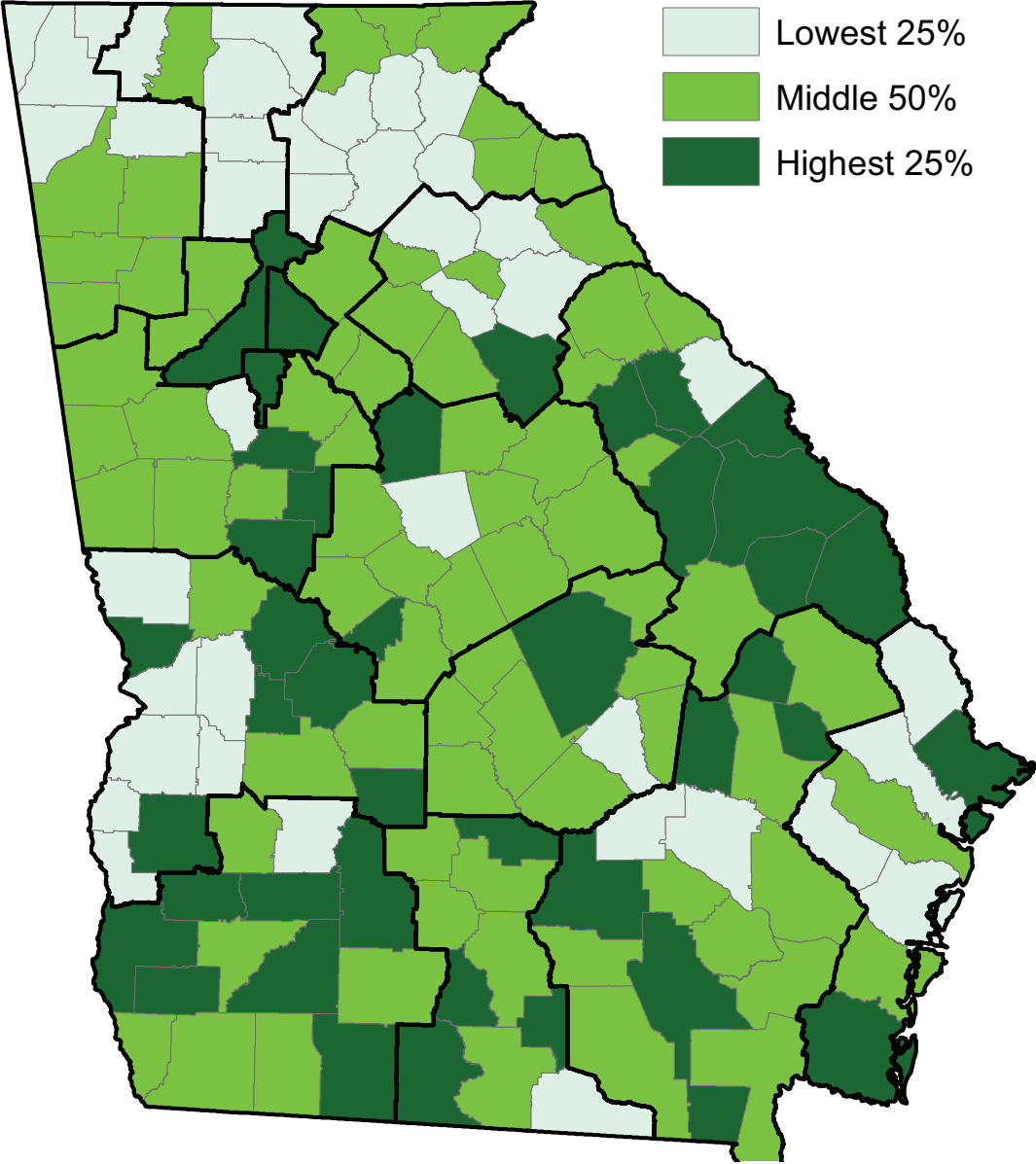
**Prevalence of Current Asthma Among Adults 18+ Years,
Georgia 2006-2010**



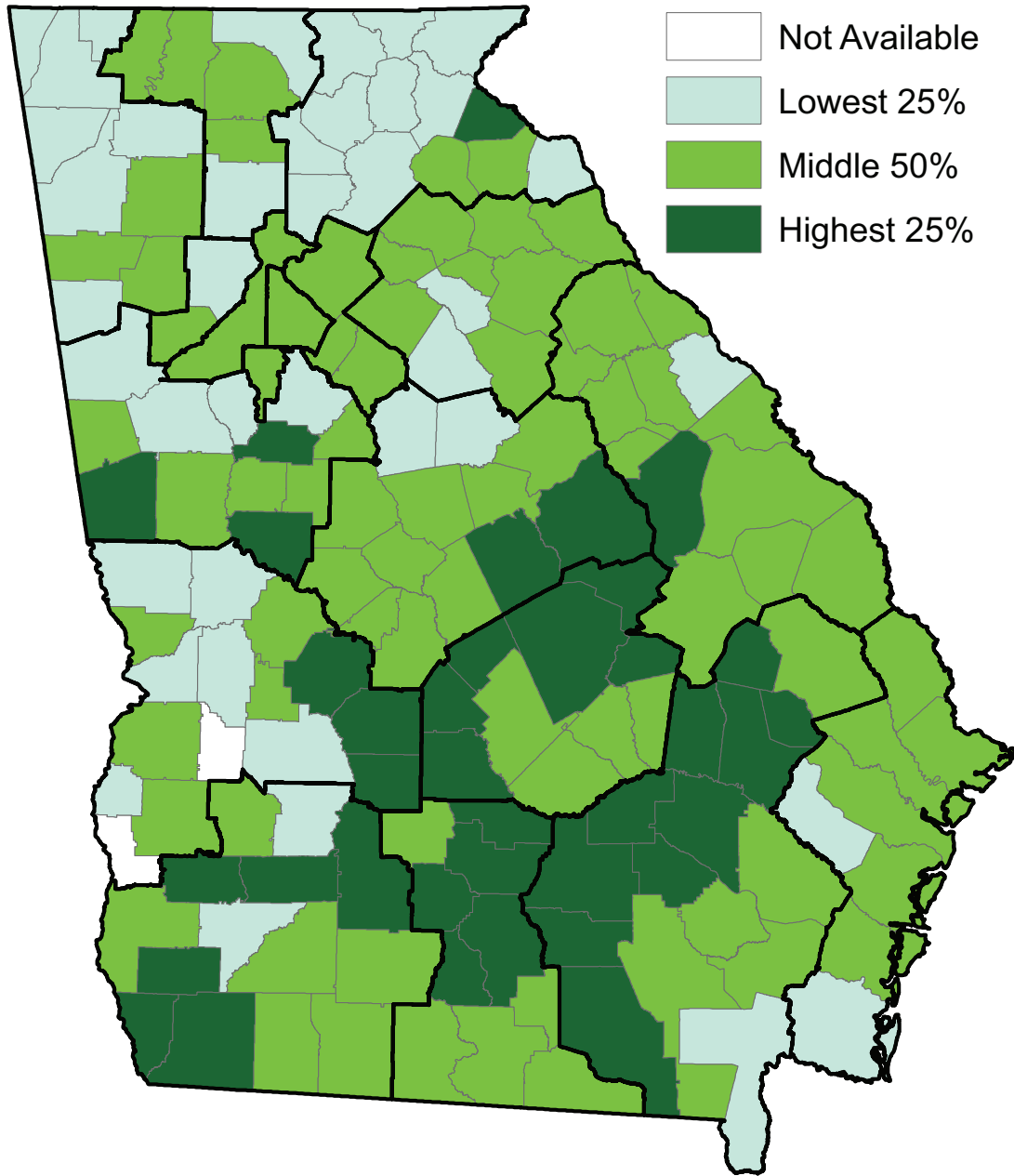
Prevalence of Current Asthma Among Children 0-17 Years, Georgia 2006-2010



Age-Adjusted Emergency Room Visit Rates for Asthma, Georgia 2006-2010



Age-Adjusted Hospitalization Rates for Asthma, Georgia 2006-2010



APPENDIX iii:

Data Sources and Methods

Data Sources, Methods, and Technical Notes

Data Sources

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is a stratified random-digit dial telephone interview conducted in cooperation with the Centers for Disease Control and Prevention (CDC). Georgia non-institutionalized residents 18 years and older are interviewed annually about their health conditions, behaviors, and the use of preventive services. Asthma was one of the topics included in the 2002-2010 core section of the BRFSS. The questions were: 1) Have you ever been told by a doctor, nurse, or other health professional that you had asthma?"; 2) Do you still have asthma?" In addition, the adult asthma history module, which consists of nine questions related to asthma history, healthcare utilization, and asthma medication use were included in the 2003-2005 BRFSS modules administered in Georgia. Prevalence was estimated from combined 2006-2010 data using SAS and SUDAAN. People without a telephone were not included in the survey.

Asthma Call Back Survey (ACBS)

The Asthma Call-back Survey is conducted approximately two weeks after the Behavioral Risk Factor Surveillance Survey (BRFSS). BRFSS respondents who report ever being diagnosed with asthma are eligible for the asthma call-back. The ACBS first became available in 2005, when it was piloted as a 3-state sample. The 2005 data were released in 2007. In 2006, 25 states participated. By 2007, 35 states implemented the BRFSS Asthma Call Back Survey, including Georgia.

Youth Risk Behavior Survey (YRBS)

The YRBS monitors priority health-risk behaviors and the prevalence of obesity and asthma among youth and young adults. The YRBS includes a national school-based survey conducted by the Centers for Disease Control and Prevention (CDC) and state, territorial, tribal, and district surveys conducted by state, territorial, and local education and health agencies and tribal governments. The Georgia YRBS is conducted every odd-numbered year; Georgia data are available for 2005, 2007, 2009 and 2011.

Youth Tobacco Survey (YTS)

The Georgia YTS is a self-administered survey given to Georgia's middle and high school students. The main focus of this survey is tobacco use. Two questions about asthma were added in the X year YTS in Georgia: 1) "Has a doctor or nurse ever told you that you have asthma?"; and, 2) "During the past 12 months have you had an episode or an asthma attack?" This survey does not include students who attend private middle school and high schools, were home schooled, or those who do not attend school at all. The Georgia YTS is conducted every odd-numbered year; Georgia YTS data are available for 2005, 2007, 2009 and 2011.

Emergency Room (ER) Visit Data

Emergency room (ER) visit data in this report are based on ER visit data by Georgia residents who were seen in the ER with asthma as the primary diagnosis. The ICD-9 codes (493.0-493.9) used to select ER visits included only information reported by non-federal acute care hospitals in Georgia. Rates were age-adjusted to the 2000 US standard population via the direct method. ER visit charges may differ from costs. Charges are based on the total charges reported by the hospital. The amount a hospital is reimbursed is usually less than what is charged.

Hospital Inpatient Discharge Data

Hospitalization data in the report are based on hospital discharge data for Georgia residents who were hospitalized with asthma as the primary diagnosis. The ICD-9 codes (493.0-493.9) used to select hospitalizations included only information reported by non-federal acute care hospitals in Georgia. Rates were age-adjusted to the 2000 US standard population via the direct method. Hospitalization charges may differ from costs. Charges are based on the total charges reported by the hospital. The amount a hospital is reimbursed is usually less than what is charged.

Georgia Vital Records Death Data

Mortality data are based on deaths of Georgia residents whose underlying cause of death was asthma. Deaths from 1999-2008 with ICD-10 codes J45-J46 were selected. Death rates were age-adjusted to the 2000 US standard population via the direct method.

Methods

Age-Adjusted Rates

A weighted average of the age-specific rates (death, ER visits, or hospitalizations) where the weights are the proportions of persons in the corresponding age groups of a standard population. The calculation of an Age-Adjusted Rate uses the year 2000 U.S. standard million. Benefit: Controls for differences in age structure so that observed differences in rates across areas such as counties are not due solely to differences in the proportion of people in different age groups in different areas.

Age-Specific Rates

[Number of death, hospitalizations, or ER visits in a specific age group / Population of same age group] * 100,000.

Cause of Death

Reported causes of death are based on the underlying cause of death. The underlying cause of death is defined by the World Health Organization as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. Cause of death is coded using the International Classification of Diseases, Tenth Revision (ICD-10).

Cause of Hospital Discharge

Causes are based on the principal diagnosis, except in cases where an External (E-code) cause supersedes the principal diagnosis.

Prevalence

The prevalence can be interpreted as the percentage of the population with the given health condition of interest (asthma). The numerator includes the count of those with the condition (asthma) and the denominator includes a count of the total population of interest, resulting in a proportion.

Rates

The count alone will be less useful when comparing populations of unequal size. Knowing population sizes is useful, but computing a rate will allow direct comparison between similar populations. A rate is a fraction that typically has four components:

1. A specified time period.
2. The numerator, which is the number of people for whom an event occurred during a given period of time.
3. The denominator, which is the total number of people in the population at risk for the same period of time. This is also referred to as the "person-years at risk."
4. A constant. The result of the fraction is usually multiplied by some constant (such as 100,000) to make the number more legible.

Statistically-significant

In this report a p-value $<.05$ was considered statistically significant, showing that the observed results are probably different from what might have occurred as a result of chance alone.

Technical Notes

In this report, some numbers are not shown because they are unreliable. In general, reliability refers to the stability of a number being reported. ACBS follows a rule of not reporting or interpreting point estimates based on fewer than 50 unweighted respondents (e.g. percentages based upon a **denominator** of or for which the Relative Standard Error is greater than 30%).

APPENDIX IV:

Glossary and Abbreviations

Glossary

Asthma Action Plan: An asthma action plan (also called a management plan) is a written plan that those with asthma develop with their doctors to help control asthma. The asthma action plan shows daily treatment, such as what kind of medicines to take and when to take them. The personalized plan describes how to control asthma long term and how to handle worsening asthma, or attacks. The plan explains when to call the doctor or go to the emergency room.

Asthma Status

Current asthma: Respondents who answered yes to the following questions; “Have you ever been told by a doctor, nurse, or other health professional that you had asthma?” and “Do you still have asthma?”

Lifetime asthma: Respondents who answered yes to the following question; “Have you ever been told by a doctor, nurse, or other health professional that you had asthma?”

Body Mass Index (BMI)

Adult

Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women. BMI is weight in kilograms divided by height in meters squared.

- An adult who has a BMI between 25 and 29.9 is considered **overweight**.
- An adult who has a BMI of 30 or higher is considered **obese**.

Children and Teens

After BMI is calculated for children and teens, the BMI number is plotted on the CDC BMI-for-age growth charts (for either girls or boys) to obtain a percentile ranking. Percentiles are the most commonly used indicators to assess the size and growth patterns of individual children in the United States. The percentile indicates the relative position of the child’s BMI number among children of the same sex and age. The growth charts show the weight status categories used with children and teens (underweight, healthy weight, overweight, and obese).

BMI-for-age weight status categories and the corresponding percentiles are shown in the following table.

Weight Status Category	Percentile Range
Underweight	Less than the 5th percentile
Healthy weight	5th percentile to less than the 85th percentile
Overweight	85th to less than the 95th percentile
Obese	Equal to or greater than the 95th percentile

Current Smoking

Adults: Smoked at least 100 cigarettes in their lifetime and who currently smoke.

Teenagers: Smoked cigarettes on one or more days in the past 30 days.

Inhaler: Asthma inhalers are hand-held portable devices that deliver medication to your lungs.

Inhaled corticosteroids (ICSs): ICSs are a class of anti-inflammatory drugs for the treatment of asthma.

Nebulizer: A nebulizer is a device that changes liquid medicine into fine droplets (in aerosol or mist form) that are inhaled through a mouthpiece or mask. Nebulizers are particularly effective in delivering asthma medications to infants and small children and to anyone who has difficulty using an asthma inhaler.

Over-the-counter (OTC) Medication: Medication for which a prescription is not needed.

Peak Flow Meter: A peak flow meter is a device for those with asthma that is used to measure how well air moves out of your lungs. Measuring your peak flow using this meter is an important part of managing your asthma symptoms and preventing an asthma attack. The peak flow meter works by measuring how fast air comes out of the lungs when you exhale forcefully after inhaling fully. This measure is called a "peak expiratory flow," or "PEF." Keeping track of your PEF, is one way you can know if your symptoms of asthma are in control or worsening.

Prescription Medications:

Long-term control – Controller medications are taken daily to achieve control and prevent asthma attacks

Quick-relief- Taken as needed for rapid, short-term relief of symptoms; used to prevent or treat an asthma attack.

Secondhand Smoke: Secondhand smoke, also known as Environmental Tobacco Smoke (ETS), consists of exhaled smoke from smokers and side stream smoke from the burning end of a cigarette, cigar or pipe and inhaled involuntarily or passively by someone who is not smoking. Secondhand smoke contains more than 4,000 substances, including several compounds that are known carcinogens.

Work-related Asthma (WRA): Asthma caused or made worse by exposures in the work environment.



Georgia Department of Public Health