



Trends in Asthma Morbidity and Mortality

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Introduction

Many Americans are afflicted by asthma, a serious chronic lung disease caused by continual airway inflammation punctuated by episodes or attacks of increased inflammation, often in response to specific triggers. These attacks are characterized by difficulty in breathing, which occasionally are extreme and can constitute a medical emergency. Over the period 1980 through 1996, the prevalence of asthma in the United States increased.¹ Since 1999, mortality and hospitalizations due to asthma have decreased, and asthma prevalence was stable since 2001, although it now appears to be increasing.

The following report delineates information available from national and state-based surveys on the mortality, prevalence, hospitalizations, ambulatory care visits and economic costs due to asthma. Since Hispanics can be of any race, comparisons among racial groups are made without regard to ethnicity unless otherwise noted.

Asthma Mortality

Table 1 documents the number of deaths by race and sex between 1999 and 2009. In 2009, 3,388 people died of asthma, a 26% decrease since 1999. Approximately 64% of these deaths occurred in women. **Table 2** displays the age-adjusted death rate per 100,000 population by race and sex for the same years. The age-adjusted death rate for 2009 was 1.1 per 100,000. **Figure 1** shows 2009 age-adjusted death rates by race and gender. In 2009, the female age-adjusted death rate was 50% greater than the rate seen in males. The age-adjusted death rate was 3.1 times higher among the black population than among the white population (2.5 versus 0.8 per 100,000, respectively). Black women had the highest age-adjusted mortality rate due to asthma in 2009 (2.5 per 100,000).²

Table 3 delineates the number of deaths and age-adjusted death rate per 100,000 population by Hispanic origin. In 2009, 302 Hispanics died of asthma – an age-adjusted death rate of 0.9 per 100,000 population. Age-adjusted death rates in Hispanics were 64% lower than non-Hispanic blacks, and 12% higher than non-Hispanic whites.³ However, studies have suggested that Puerto Ricans had higher age-adjusted death rates than all other Hispanic subgroups and non-Hispanic whites and blacks.⁴

Tables 4 and 5 delineate the number of deaths and mortality rates for asthma by 10-year age groups from 1999 to 2009. **Figure 2** shows that asthma deaths are rare among children and increase with age. In 2009, 157 children under 15 died from asthma (0.2 per 100,000 population) compared to 617 adults over 85. The death rate in those 85 and over was 175% greater than the second highest mortality rate, seen among those 75-84 years of age (11.0 per 100,000 versus 4.0 per 100,000).⁵

Unlike morbidity estimates, which are drawn from sample populations and extrapolated to the overall population, mortality data is obtained from the general population from death certificates. Therefore, sex- and race-specific mortality figures are actual counts that denote differences between groups.

Asthma Prevalence

National Health Interview Survey, 2001-2011

The National Health Interview Survey (NHIS) is a multi-purpose health survey conducted by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). It is the principal source of information on the health of the civilian, noninstitutionalized, household population of the United States.

Asthma prevalence is based on a series of questions. Respondents or their proxies were asked if they had ever been diagnosed with asthma by a health professional in their lifetime and if so, did they still have asthma and had they had an asthmatic attack or episode in the past 12 months. The question on asthma attack prevalence assists public health professionals in planning interventions by measuring the population at risk for serious outcomes from asthma.

These estimates most likely reflect an underestimate of true asthma prevalence, since studies have shown that there are individuals suffering from undiagnosed asthma.^{6,7}

Lifetime Prevalence

Based on the 2011 NHIS sample, it was estimated that 39.5 million Americans, or 129.1 per 1,000 persons, had been diagnosed with asthma by a health professional within their lifetime. Since 1999, children 5-17 years of age have had the highest prevalence rates. In 2011, 8.7 million children ages 5-17 had been diagnosed with asthma in their lifetime. These data are displayed in **Table 6**.⁸

Females traditionally have consistently higher rates of asthma than males. In 2011, females were about 14.0% more likely than males to ever have been diagnosed with asthma.⁹

Blacks are also more likely to be diagnosed with asthma over their lifetime. In 2011, the prevalence rate in blacks was 36.9% higher than the rate in whites.¹⁰ The lifetime asthma prevalence rates for the two races have been statistically significant every year since 1997.

Current Prevalence

Age-specific current asthma prevalence trends are shown in **Table 7**. Approximately 25.9 million Americans (including 7.1 million children) had asthma in 2011; a rate of 84.8 per 1,000 population. The highest prevalence rate was seen in those 5-17 years of age (105.5 per 1,000 population). Overall, the rate in those under 18 (94.9 per 1,000) was significantly greater than those over 18 (81.6 per 1,000; *not shown*).¹¹

Sex-specific current asthma prevalence trends are delineated in **Table 8**. In 2011, 10.8 million males and 15.1 million females had asthma. The overall prevalence rate in females (97.3 per 1,000 persons) was 35% greater than the rate in males (71.9 per 1,000 persons). Among adults 18 years and older, females were 62% more likely than males to have asthma (100.1 per 1,000 versus 61.8 per 1,000). However, this pattern is reversed among children. The current asthma prevalence rate for boys under 18 (101.7 per 1,000) was 16% higher than the rate among girls (87.8 per 1,000).

Figure 3 shows this comparison. The difference in rates between sexes was statistically significant in both children and adults.¹²

Race- and age-specific current asthma prevalence trends are displayed in **Table 9**. In 2011, the current asthma prevalence rate was 47% higher in blacks than in whites (118.0 versus 80.4 per 1,000 persons, respectively). This difference between races was statistically significant. The highest prevalence rates for whites and blacks were among the 5-17 age group.¹³

Attack Prevalence

Table 10 displays asthma attack prevalence estimates between 2004 and 2011. In 2011, an estimated 13.2 million Americans (including 4.1 million children under 18) had an asthma attack. This represents 51% of the 25.9 million people who currently have asthma. The asthma attack rate was 43.1 per 1,000 population.¹⁴

For the past twelve years, 5-17 year olds had the highest attack prevalence rates while those over 65 had the lowest every year. Since 1999 the asthma attack prevalence rate in those under 18 has been significantly greater than among those over 18; in 2011, these rates were 54.6 versus 39.4 per 1,000 respectively.¹⁵

Females tend to have consistently higher attack prevalence rates than males. In 2011, 8.0 million females (51.6 per 1,000) had an asthma attack compared to 5.1 million males (34.3 per 1,000). The difference in attack prevalence rates between sexes has been significant each year since 1999.¹⁶

The asthma attack prevalence rate in blacks was 47% higher than the rate in whites. This difference between races was statistically significant. In 2011, asthma attack prevalence rates in whites and blacks were highest among the 5-17 age group and lowest in those 65 years and older.¹⁷

Asthma in Hispanics

Table 11 displays the number of conditions and prevalence rates by Hispanic origin. In 2011, 5.8 million Hispanics had been diagnosed with asthma in their lifetime; 3.6 million reported that they still have the disease, and 1.7 million of those experienced an asthma attack in the past year. Lifetime, current and attack prevalence rates in Hispanics were significantly lower than non-Hispanic blacks and non-Hispanic whites in 2011.¹⁸ Studies have suggested that within Hispanic subgroups, Puerto Ricans may have higher rates of asthma than other Hispanic subgroups and non-Hispanic whites.

Behavioral Risk Factor Surveillance System, 2011

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based telephone survey of the noninstitutionalized U.S. population aged 18 and over that collects information about modifiable risk factors for chronic diseases and other leading causes of death. This is the first survey to collect state-specific asthma prevalence data for adults.

The 2011 BRFSS was subject to two major methodology revisions, including the addition of cell phones to the sampling frame and adoption of a new weighting procedure. Because of these changes, comparisons to previous years of data are not advised.

The BRFSS offers an optional module on asthma prevalence among children under 18 years of age. Adult respondents with one or more children in the household answer two questions about lifetime and current asthma prevalence for the child, if only one, or a randomly selected child, if two or more are reported. This module was introduced in 2001, but comparing estimates from before 2005 is not recommended as different sampling methods were used prior to that year. Unfortunately, not every state includes this module.

Questions on lifetime and current asthma prevalence in the BRFSS are comparable to the National Health Interview Survey, but estimates vary due to sampling design. According to the 2011 BRFSS, an estimated 31.5 million adults (13.4%) had been diagnosed with asthma within their lifetime and 20.5 million adults (8.8%) still had asthma in 2011. This compares to 29.0 million adults (12.6 %) and 18.9 million adults (8.2%) who were diagnosed with lifetime and current asthma, respectively, in the 2011 National Health Interview Survey (NHIS). Confidence intervals for the prevalence rates indicate that the current but not lifetime estimates from both surveys were statistically different.¹⁹

Table 12 displays 2011 lifetime and current asthma prevalence by state in adults, and in children for select states. **Figure 5** shows the 2011 state-specific current asthma prevalence in adults, which ranged from 6.4% in Louisiana to 12.0% in Maine.²⁰

Tables 13 and 14 display state-specific lifetime and current asthma prevalence in children between 2006 and 2010. This data should not be compared to that from 2011. It is provided so those states with no 2011 data have some reference for the burden of child asthma between states.²¹

First-Listed Asthma Hospital Discharges

A first listed diagnosis is the diagnosis identified as the principal diagnosis or listed first on the medical record. The hospital discharge rate for asthma was stable in the early 1990s, peaking at 511,000 discharges (19.5 per 10,000 population) in 1995 and 574,000 (19.8 per 10,000 population) in 2003. During 2010, 439,000 discharges (14.3 per 10,000 population) were attributed to asthma. Between 2003 and 2010 there was a 24% decrease in the hospitalization discharge rate for asthma in the United States.²²

Table 15 delineates the trend in the number of hospital discharges and rates by sex from 1989 to 2010. Between 2003 and 2010 the number of hospital discharges decreased 24% overall, 30% in males and 19% in females. In 2010, a total of 278,000 discharges were reported in females and 163,000 were reported in males.²³

As shown in **Table 16**, between 2003 and 2010, hospital discharge rates for asthma decreased in all age groups, although less so in those 65 years of age and older. Unlike other chronic lung diseases, asthma discharges are very common among the pediatric population. Approximately 29% of the asthma discharges in 2010 were in those under 15, although only 21% of the U.S. population was less than 15 years old. **Figure 5** depicts this age-specific comparison.²⁴

The trend in hospital discharges by race is delineated in **Table 17**. The 2010 discharge rate for asthma in blacks (28.5 per 10,000) was 3.2 times higher than that seen in whites and 2.5 times higher than that seen in other races (9.0 and 11.6 per 10,000, respectively). These rates, however,

should be interpreted with caution due to a large percentage of discharges for which race was not reported.²⁵

Asthma Ambulatory Care Visits

Table 18 displays the trend in visits to physician offices, hospital outpatient departments and emergency departments in the United States from 1989-2010. In 2010 there were 10.6 million physician office visits, 1.2 million hospital outpatient department visits and 2.1 million emergency room visits due to asthma.²⁶

Economic Cost of Asthma

From 2002 to 2007, the annual economic cost of asthma in the U.S. was \$56.0 billion; direct health care costs consisted of \$50.1 billion with indirect costs (lost productivity) contributing an additional \$5.9 billion.²⁷

A study by the American Lung Association Asthma Clinical Research Centers found that the inactivated influenza vaccine is safe to administer to adults and children with asthma, including those with severe asthma.²⁸ Influenza causes substantial morbidity in adults and children with asthma, and vaccination can prevent influenza and its complications. In 2011, 51.0% of children and 47.8% of adults with asthma received the influenza vaccine.²⁹

Summary

After a long period of steady increase, evidence suggests that asthma mortality and health care utilization rates continue to plateau and/or decrease. The number of deaths due to asthma in 2009 was approximately 27% lower than the number of deaths seen in 1999.³⁰ The number and rate of hospital discharges have both decreased 24% between 2003 and 2010.³¹

However, prevalence rates continue to rise after a period of plateauing. Rates have increased by an annual average of 2.7 percentage points since 1997 for lifetime prevalence, 1.5 since 2001 for current prevalence, and 0.3 since 1997 for attack prevalence.

Asthma remains a major public health concern. In 2011, approximately 25.9 million Americans had asthma. In 2008, the condition accounted for an estimated 14.4 million lost school days in children and 14.2 million lost work days in adults.³² Asthma is a leading cause of activity limitation and costs our nation \$56.0 billion in health care costs annually.³³

GLOSSARY

Prevalence:	The proportion of existing cases of a particular condition, disease, or other occurrence (e.g., persons smoking) at a given time.
Lifetime Prevalence:	The proportion of cases that exist within a population at any point during a specified period of time. Therefore, respondents may not still have the condition in question. In this report: the proportion of people ever receiving a diagnosis of asthma from a health professional.
Current Prevalence:	The proportion of cases that exist within a population at a single point in time. In this report: the proportion of people who have ever received a diagnosis of asthma and still have the disease.
Attack Prevalence:	The proportion of attacks that occur within a population at a single point in time. In this report: the proportion of people who had one or more asthma attacks or episodes in the preceding year. This type of period prevalence estimate measures for active asthma.
Crude Rate:	Cases in a particular population quantity – e.g. per hundred.
Age-Adjusted Rate:	A figure that is statistically corrected to remove the distorting effect of age when comparing populations of different age structures.
P value:	The probability of observing a result as extreme as that observed solely to chance. If the p-value is less than or equal to 0.05, then there is no more than a 5% chance of seeing that result again, but if the p- value is greater than or equal to 0.05, then chance cannot be excluded as a likely explanation and the findings are said to be not significant at that level.

Sources:

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- ² Centers for Disease Control and Prevention, National Center for Health Statistics. CDC [Wonder On-line Database](#), compiled from Compressed Mortality File 1999-2009 Series 20 No. 20, 2012.
- ³ Ibid.
- ⁴ Homa D et al. Asthma Mortality in U.S. Hispanics of Mexican, Puerto Rican, and Cuban Heritage, 1990-1995. *American Journal of Respiratory and Critical Care Medicine*. 2000; 161:504-9.
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- ⁹ Ibid.
- ¹⁰ Ibid.
- ¹¹ Ibid.
- ¹² Ibid.
- ¹³ Ibid.
- ¹⁴ Ibid.
- ¹⁵ Ibid.
- ¹⁶ Ibid.
- ¹⁷ Ibid.
- ¹⁸ Ibid.
- ¹⁹ Centers for Disease Control and Prevention. National Center for Health Statistics. Behavioral Risk Factor Surveillance Survey, 2006-2011. Analysis performed by the American Lung Association Research and Health Education Division using SPSS and SUDAAN software.
- ²⁰ Ibid.
- ²¹ Ibid.
- ²² Centers for Disease Control and Prevention. National Center for Health Statistics. National Hospital Discharge Survey, 1989-2010. Analysis performed by American Lung Association Research and Health Education Division using SPSS software.
- ²³ Ibid.
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- ²⁶ Centers for Disease Control and Prevention. National Center for Health Statistics. National Ambulatory Medical Care Survey, 1989-2009. National Hospital Ambulatory Medical Care Survey, 1992-2009. Analysis performed by American Lung Association Research and Health Education Division using SPSS software.
- ²⁷ Barnett SB, Nurmagambetov TA. Costs of Asthma in the United States: 2002-2007. *Journal of Allergy and Clinical Immunology*, 2011; 127(1):145-52.
- ²⁸ American Lung Association Asthma Clinical Research Centers. The Safety of Inactivated Influenza Vaccine in Adults and Children with Asthma. *New England Journal of Medicine*. 2001; 345(21):1529-36.
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- ³¹ Centers for Disease Control and Prevention. National Center for Health Statistics. National Hospital Discharge Survey, 1989-2010. Analysis performed by American Lung Association Research and Health Education Division using SPSS software.
- ³² Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey Raw Data, 2011. Analysis performed by American Lung Association Research and Health Education Division using SPSS and SUDAAN software.
- ³³ Barnett SB, Nurmagambetov TA. Costs of Asthma in the United States: 2002-2007. *Journal of Allergy and Clinical Immunology*, 2011; 127(1):145-52.

Table 1: Asthma – Number of Deaths by Race and Sex, 1999-2009

Year	Total			White			All Other ⁽¹⁾					
	Total			Total			Total			Black		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
1999	4,657	1,620	3,037	3,328	1,046	2,282	1,329	574	755	1,145	481	664
2000	4,487	1,632	2,855	3,144	1,057	2,087	1,343	575	768	1,158	481	677
2001	4,269	1,479	2,790	2,990	937	2,053	1,279	542	737	1,108	459	649
2002	4,261	1,580	2,681	3,014	1,017	1,997	1,247	563	684	1,096	497	599
2003	4,099	1,493	2,606	2,888	961	1,927	1,211	532	679	1,030	445	585
2004	3,816	1,386	2,430	2,658	851	1,807	1,158	535	623	1,008	455	553
2005	3,884	1,315	2,569	2,714	843	1,871	1,170	472	698	1,016	411	306
2006	3,613	1,296	2,317	2,497	805	1,692	1,116	491	625	957	423	534
2007	3,447	1,274	2,173	2,376	789	1,587	1,071	485	586	902	406	496
2008	3,397	1,186	2,211	2,342	755	1,587	1,055	431	624	902	375	527
2009	3,388	1,220	2,168	2,299	751	1,548	1,089	469	620	924	410	514

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. CDC Wonder On-line Database, compiled from Compressed Mortality File 1999-2009 Series 20 No. 20, 2012.

Notes:

(1) Deaths from 1999-2006 are coded by the 10th revision of International Classification of Diseases, code J45-J46.

(2) All races other than White.

Table 2: Asthma – Age-Adjusted Death Rate per 100,000 population, by Race and Sex, 1999-2009 ^(1,2)

Year	Total			White			All Other ⁽³⁾					
	Both Sexes	Male	Female	Both Sexes	Male	Female	Total			Black		
							Both Sexes	Male	Female	Both Sexes	Male	Female
1999	1.7	1.4	2.0	1.4	1.0	1.7	3.4	3.3	3.5	3.9	3.6	4.2
2000	1.6	1.3	1.8	1.3	1.0	1.5	3.3	3.1	3.5	3.9	3.5	4.2
2001	1.5	1.2	1.7	1.2	0.9	1.5	3.0	2.8	3.2	3.6	3.2	3.8
2002	1.5	1.2	1.7	1.2	0.9	1.4	2.8	2.7	2.8	3.4	3.3	3.4
2003	1.4	1.0	1.8	1.2	0.8	1.6	2.2	2.0	2.4	2.7	2.4	2.9
2004	1.3	1.0	1.4	1.0	0.8	1.2	2.5	2.5	2.5	3.0	3.0	3.1
2005	1.3	1.0	1.5	1.0	0.7	1.3	2.5	2.2	2.7	3.0	2.7	3.3
2006	1.2	0.9	1.3	0.9	0.7	1.1	2.2	2.1	2.3	2.7	2.5	2.8
2007	1.1	0.9	1.2	0.9	0.7	1.0	2.1	2.1	2.1	2.5	2.5	2.6
2008	1.1	0.8	1.2	0.9	0.6	1.0	2.0	1.7	2.2	2.5	2.1	2.7
2009	1.1	0.8	1.2	0.8	0.6	1.0	2.0	1.9	2.1	2.5	2.4	2.5

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. CDC Wonder On-line Database, compiled from Compressed Mortality File 1999-2009 Series 20 No. 20, 2012.

Notes:

(1) Rates for 1999-2006 are age-adjusted to the 2000 U.S. standard population.

(2) Deaths from 1999-2006 are coded by the 10th revision of International Classification of Diseases, code J45-J46.

(3) All races other than White.

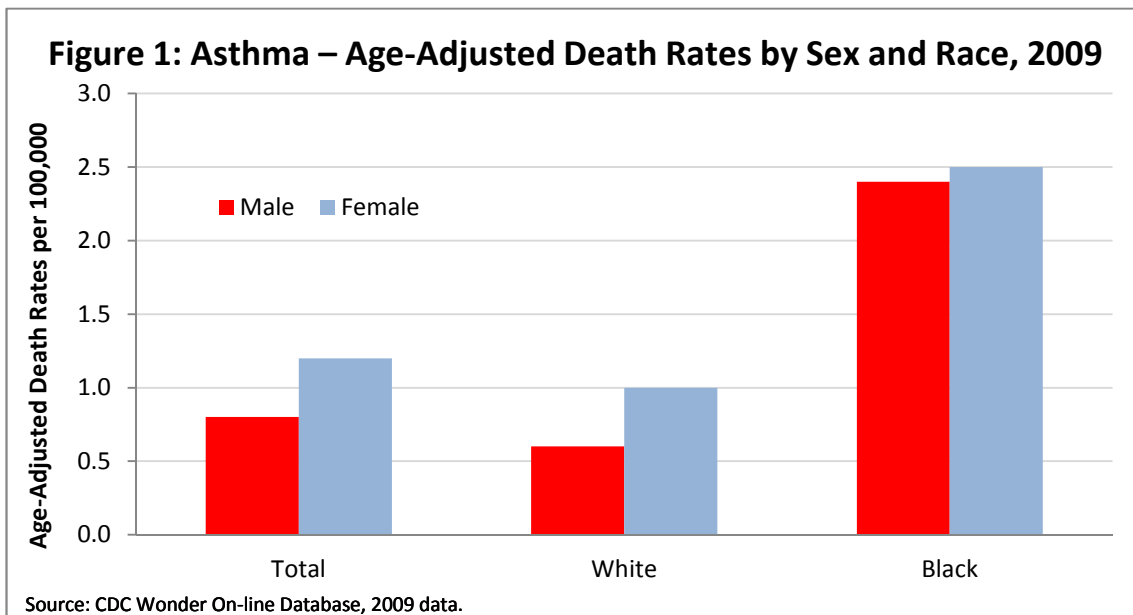


Table 3: Asthma - Number of Deaths and Age-Adjusted Death Rate per 100,000 population by Ethnic Origin and Sex, 1999-2009 ^(1,2)

Year/Sex	Total		Hispanic		Non-Hispanic ⁽³⁾		Non-Hispanic White		Non-Hispanic Black	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Both Sexes										
1999	4,657	1.7	320	1.7	4,324	1.7	3,011	1.4	1,134	4.1
2000	4,487	1.6	292	1.5	4,164	1.6	2,836	1.3	1,145	4.1
2001	4,269	1.5	274	1.4	3,976	1.5	2,717	1.2	1,092	3.6
2002	4,261	1.5	287	1.3	3,950	1.5	2,720	1.2	1,083	3.5
2003	4,099	1.4	299	1.3	3,786	1.4	2,589	1.3	1,019	2.8
2004	3,816	1.3	281	1.1	3,524	1.3	2,377	1.0	1,001	3.1
2005	3,884	1.3	248	1.0	3,626	1.3	2,475	1.0	1,002	3.1
2006	3,613	1.2	257	1.0	3,343	1.2	2,246	0.9	943	2.8
2007	3,447	1.1	239	0.8	3,207	1.1	2,151	0.9	893	2.6
2008	3,397	1.0	271	0.9	3,115	1.1	2,070	0.8	892	2.6
2009	3,388	1.1	302	0.9	3,076	1.1	2,012	0.8	905	2.5
Male										
1999	1,620	1.4	119	1.2	1,495	1.4	930	1.0	474	3.7
2000	1,632	1.3	129	1.3	1,486	1.3	920	1.0	472	3.6
2001	1,479	1.2	103	1.0	1,365	1.2	834	0.9	450	3.3
2002	1,580	1.2	114	1.0	1,448	1.2	895	0.9	488	3.4
2003	1,493	1.1	131	1.1	1,356	1.2	831	0.9	439	2.5
2004	1,386	1.0	111	0.9	1,272	1.1	743	0.8	452	3.1
2005	1,315	1.0	106	0.9	1,205	1.0	743	0.7	403	2.7
2006	1,296	0.9	94	0.7	1,196	1.0	715	0.7	414	2.6
2007	1,274	0.9	109	0.7	1,164	0.9	686	0.7	402	2.5
2008	1,186	0.8	116	0.8	1,067	0.8	641	0.6	370	2.2
2009	1,220	0.8	129	0.8	1,088	0.9	633	0.6	397	2.4
Female										
1999	3,037	2.0	201	2.0	2,829	2.0	2,081	1.7	660	4.3
2000	2,855	1.8	163	1.6	2,678	1.9	1,916	1.5	673	4.3
2001	2,790	1.7	171	1.7	2,611	1.8	1,883	1.4	642	3.9
2002	2,681	1.7	173	1.5	2,502	1.7	1,825	1.4	595	3.5
2003	2,606	1.6	168	1.4	2,430	1.6	1,758	1.7	580	3.0
2004	2,430	1.4	170	1.4	2,252	1.5	1,634	1.2	549	3.1
2005	2,569	1.5	142	1.1	2,421	1.6	1,732	1.3	599	3.4
2006	2,317	1.3	163	1.2	2,147	1.4	1,531	1.1	529	2.9
2007	2,173	1.2	130	0.9	2,043	1.3	1,465	1.1	491	2.6
2008	2,211	1.2	155	1.0	2,048	1.3	1,429	1.0	522	2.8
2009	2,168	1.2	173	1.1	1,988	1.2	1,379	1.0	508	2.6

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Vital Statistics Reports. Deaths: Final Data for 1999-2009.

Notes:

(1) Number of deaths are coded by the 10th revision of International Classification of Diseases, code J45-J46.

(2) Rates are age-adjusted to the 2000 U.S. standard population.

(3) Includes races other than White and Black.

Table 4: Asthma - Number of Deaths in 10-Year Age Groups, 1999-2009

Year	Total	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1999	4,657	5	27	126	182	262	447	607	583	773	925	720
2000	4,487	8	32	129	167	249	458	614	540	734	849	707
2001	4,269	10	31	99	140	233	455	603	553	634	802	709
2002	4,261	4	43	123	169	235	472	608	536	583	812	675
2003	4,099	7	37	110	158	227	411	632	562	532	752	671
2004	3,816	7	29	105	159	197	376	562	520	504	673	684
2005	3,884	4	37	97	131	207	369	595	510	475	709	740
2006	3,613	6	26	99	135	194	373	566	492	443	626	653
2007	3,447	4	41	107	133	201	320	538	461	412	569	659
2008	3,397	6	37	112	141	182	308	497	470	438	547	659
2009	3,388	6	37	114	164	215	295	551	470	399	520	617

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Vital Statistics Reports. Deaths: Final Data for 1999-2009.

Table 5: Asthma – Death Rate per 100,000 population, by Age Groups 1999-2009 ⁽¹⁾

Year	Total	<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1999	1.7	---	0.2	0.3	0.5	0.7	1.0	1.7	2.5	4.2	7.6	17.2
2000	1.6	---	0.2	0.3	0.4	0.7	1.0	1.7	2.3	4.0	6.9	16.5
2001	1.5	---	0.2	0.2	0.4	0.6	1.0	1.5	2.2	3.5	6.4	16.1
2002	1.5	---	0.3	0.3	0.4	0.6	1.1	1.5	2.0	3.2	6.4	14.7
2003	1.4	---	0.2	0.3	0.4	0.6	0.9	1.5	2.0	2.9	5.8	14.2
2004	1.3	---	0.2	0.3	0.4	0.5	0.9	1.4	1.8	2.7	5.2	14.1
2005	1.3	---	0.2	0.2	0.3	0.5	0.8	1.4	1.7	2.5	5.4	14.5
2006	1.2	---	0.2	0.2	0.3	0.5	0.9	1.3	1.6	2.3	4.8	12.3
2007	1.1	---	0.2	0.3	0.3	0.5	0.7	1.2	1.4	2.1	4.4	12.0
2008	1.1	---	0.2	0.3	0.3	0.4	0.7	1.1	1.4	2.2	4.2	11.5
2009	1.1	---	0.2	0.3	0.4	0.5	0.7	1.2	1.4	1.9	4.0	11.0

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Vital Statistics Reports. Deaths: Final Data for 1999-2009.

Notes:

(1) Deaths from 1999-2009 are coded by the 10th revision of International Classification of Diseases, J45-J46.

--- Figure does not meet standard of reliability or precision (Estimate based on fewer than 20 deaths).

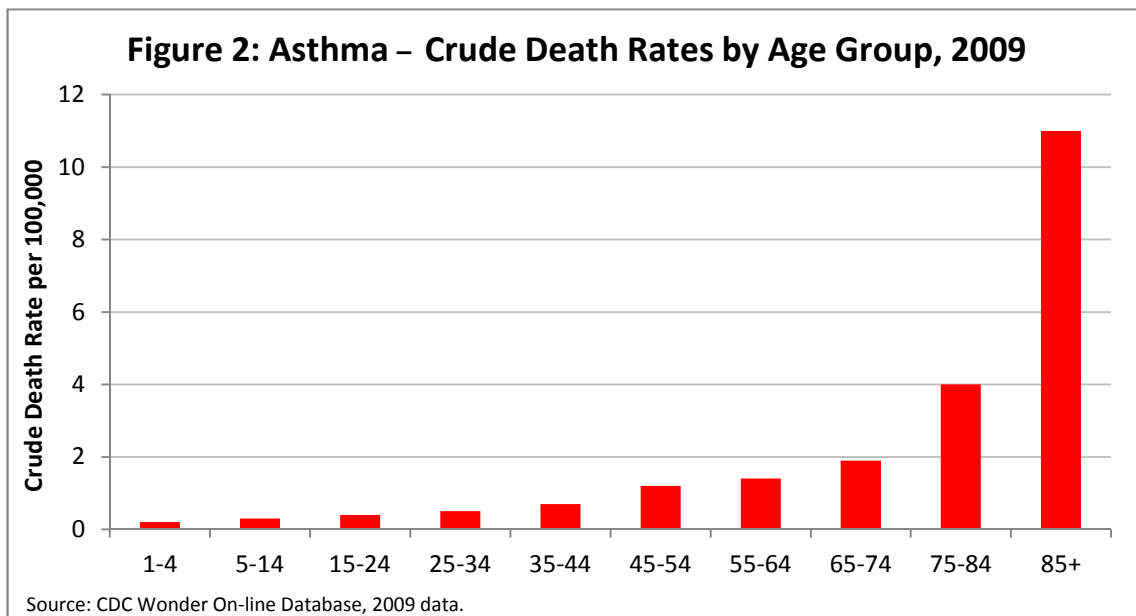


Table 6: Asthma - Number of People Ever Told by a Health Professional that they had Asthma and Prevalence Rate per 1,000 population, by Age, Sex and Race, 2004-2011 (Lifetime Prevalence) ⁽¹⁾

	2004		2005		2006		2007		2008		2009		2010		2011	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Total	30,189,450	104.7	32,620,534	112.0	34,131,580	116.2	34,007,590	114.5	38,430,376	128.5	39,930,124	132.5	39,190,872	128.9	39,504,323	129.1
Age																
<5	1,454,498	72.8	1,741,465	85.8	1,521,299	74.5	1,636,267	79.5	1,498,621	72.0	1,668,461	78.9	1,714,118	80.0	1,753,100	82.7
5-17	7,435,318	140.1	7,545,500	142.2	8,354,541	157.4	7,968,828	149.9	8,691,354	163.8	8,527,325	161.3	8,419,360	158.2	8,710,191	163.4
<18	8,889,816	121.7	9,286,965	126.6	9,875,840	134.4	9,605,095	130.3	10,189,975	138.0	10,195,786	137.8	10,133,478	135.8	10,463,291	140.4
18-44	10,959,122	99.3	12,322,282	111.6	12,668,079	114.8	12,995,928	117.2	14,891,564	134.6	29,734,338	130.8	15,020,228	135.8	1,509,446	136.2
45-64	6,972,948	99.4	7,555,487	104.5	7,806,115	105.2	7,895,449	103.7	9,265,710	119.7	15,743,442	142.7	9,723,292	121.2	9,839,666	121.7
65+	3,367,564	97.4	3,455,800	98.6	3,781,546	106.0	3,511,118	97.1	4,083,127	109.8	9,706,421	122.6	4,313,874	111.5	4,110,920	108.4
>18	21,299,634	99.0	23,333,569	107.1	24,255,740	110.1	24,402,495	109.3	28,240,401	125.4	29,734,338	113.2	29,057,394	126.6	29,041,032	125.5
Sex																
Male	14,319,905	101.6	14,628,489	102.7	15,952,818	110.9	15,932,657	109.6	17,867,295	122.0	18,521,131	125.4	17,696,171	118.7	18,102,749	120.5
Female	15,869,545	107.7	17,992,044	121.0	18,178,762	121.2	18,074,933	119.3	20,563,061	134.8	21,408,993	139.3	21,494,701	138.6	21,401,574	137.5
Race																
White	24,045,954	101.5	25,986,225	108.7	27,036,551	113.7	26,798,402	112.1	30,025,619	124.7	31,277,958	129.0	30,117,278	123.3	30,374,192	123.8
<5	1,136,552	72.4	1,107,802	69.7	1,125,619	71.4	954,773	61.2	984,128	61.6	1,032,703	63.8	1,095,265	67.0	1,104,884	68.5
5-17	5,352,774	129.0	5,569,421	134.0	6,227,995	151.1	5,518,513	134.7	6,017,946	147.7	5,980,779	146.5	5,843,801	142.3	6,151,483	149.4
18-44	8,752,791	97.7	9,857,252	110.1	9,993,077	114.1	10,577,772	120.5	11,892,854	136.1	12,573,455	144.7	11,410,096	131.1	11,498,228	132.3
45-64	5,861,424	98.7	6,454,928	105.5	6,446,946	103.8	6,652,131	105.4	7,655,811	118.9	7,952,842	121.2	8,012,701	120.9	8,166,234	122.3
65+	2,942,413	95.4	2,996,822	96.8	3,242,914	104.4	3,095,213	98.0	3,474,880	107.5	3,738,179	113.8	3,755,415	111.5	3,453,363	100.8
Black	4,948,075	133.4	5,110,214	137.4	5,342,756	136.6	5,248,110	133.8	6,353,327	160.9	6,671,058	165.0	7,025,535	172.1	6,890,240	169.5
<5	395,616	119.9	528,218	158.6	351,576	102.2	544,230	156.5	384,767	110.2	570,883	161.6	489,443	136.7	552,220	157.3
5-17	1,681,349	196.9	1,554,894	182.7	1,707,643	192.7	1,855,699	210.6	2,192,429	252.3	2,079,850	238.4	2,082,326	241.3	1,939,192	227.6
18-44	1,732,061	118.9	1,794,574	123.8	1,939,503	126.0	1,681,732	110.6	2,228,770	145.8	2,415,768	154.4	2,711,728	171.5	2,733,553	173.5
45-64	818,936	107.0	880,522	111.6	938,301	114.3	848,297	98.7	1,154,966	131.3	1,262,456	137.8	1,298,977	137.9	1,207,077	128.6
65+	300,113	104.2	352,006	118.7	405,733	126.1	318,152	101.8	392,395	122.3	342,101	102.0	443,061	130.7	458,198	132.1

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 2004-2011. Analysis by the American Lung Association Research and Program Services Division using SPSS software.

Notes:

(1) Lifetime prevalence is defined as answering yes to "Have you ever been told by a doctor or other health professional that you had asthma?"

Table 7: Asthma - Number of Conditions and Prevalence Rate per 1,000 population by Age, 2001-2011 (Current Prevalence) ^(1,2)

Year	All Ages		Under 5		5-17		<18		18-44		45-64		65+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2001	20,280,603	73.4	1,127,711	57.1	5,192,266	98.1	6,319,977	87.0	7,796,024	71.9	4,207,483	67.3	1,957,119	59.6
2002	20,025,716	71.8	1,180,664	59.5	4,882,214	91.9	6,062,878	83.1	7,437,526	68.8	4,591,985	71.0	1,933,327	58.5
2003	19,836,001	69.4	1,177,472	59.3	5,035,963	94.8	6,213,435	85.1	6,972,303	63.1	4,678,034	68.5	1,972,229	57.6
2004	20,544,836	71.3	1,119,656	56.0	5,067,050	95.5	6,186,706	84.7	7,058,327	63.9	4,871,010	69.4	2,428,793	70.2
2005	22,227,378	76.3	1,371,199	67.5	5,159,596	97.2	6,530,795	89.0	7,745,701	70.1	5,280,703	73.0	2,670,179	76.2
2006	22,875,985	77.9	1,177,912	57.7	5,641,460	106.3	6,819,372	92.8	7,990,497	72.4	5,575,548	75.1	2,490,568	69.8
2007	22,879,141	77.1	1,395,164	67.8	5,307,438	99.9	6,702,602	90.9	7,996,454	72.1	5,475,500	71.9	2,704,585	74.8
2008	23,317,502	78.0	1,276,343	61.4	5,676,458	107.0	6,952,801	94.1	7,944,927	71.8	5,765,100	74.5	2,654,674	71.4
2009	24,566,689	81.5	1,332,320	63.0	5,778,750	109.3	7,111,070	96.1	8,367,657	75.8	6,181,748	78.1	2,906,214	76.8
2010	25,710,279	84.5	1,284,872	60.0	5,691,554	107.0	6,976,426	93.5	8,901,752	80.5	6,704,335	83.6	3,127,766	80.8
2011	25,942,610	84.8	1,371,518	68.5	5,621,960	105.5	7,073,872	94.9	8,850,239	79.9	7,009,602	86.7	3,008,897	79.4

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 2001-2011. Analysis by the American Lung Association Research and Program Services Division using SPSS software.

Notes:

(1) Current prevalence was defined as those who answered "yes" to both "Have you ever been told by a doctor or other health professional that you had asthma?" (Table 6) and "Do you still have asthma?"

Table 8: Asthma – Number of Conditions and Prevalence Rate per 1,000 population by Sex, 2001-2011 (Current Prevalence) ⁽¹⁾

Year	Male						Female					
	All Ages		Under 18		18 and Over		All Ages		Under 18		18 and Over	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2001	8,579,722	63.6	3,679,050	99.0	4,900,672	50.1	11,700,881	82.6	2,640,927	74.4	9,059,954	85.4
2002	8,461,150	62.6	3,520,764	94.4	4,940,386	50.0	11,564,566	81.0	2,542,114	71.3	9,022,452	84.3
2003	8,212,724	58.8	3,548,147	95.1	4,664,577	45.6	11,623,277	79.4	2,665,288	74.7	8,957,989	80.9
2004	8,937,331	63.4	3,789,642	101.5	5,147,689	49.7	11,607,505	78.8	2,397,064	67.1	9,210,441	82.5
2005	9,092,310	63.8	3,744,508	99.8	5,347,802	51.0	13,135,068	88.3	2,786,287	77.7	10,348,781	91.7
2006	10,026,373	69.7	4,122,206	109.7	5,904,167	55.6	12,849,612	85.7	2,697,166	75.1	10,152,446	89.0
2007	9,484,900	65.2	3,659,782	97.4	5,825,118	54.1	13,394,241	88.4	3,042,820	84.7	10,351,421	89.7
2008	10,410,894	71.1	4,293,261	114.3	6,117,633	56.3	12,906,608	84.6	2,659,540	74.0	10,247,068	88.0
2009	10,325,353	69.9	4,267,576	112.8	6,057,777	55.1	14,241,336	92.7	2,843,494	78.6	11,397,842	97.0
2010	10,408,792	69.8	3,990,775	104.6	6,418,017	57.9	15,301,487	98.7	2,985,651	81.8	12,315,836	103.9
2011	10,798,678	71.9	3,875,598	101.7	6,923,080	61.8	15,143,932	97.3	3,198,274	87.8	11,945,658	100.1

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 2001-2011. Analysis by the American Lung Association Research and Program Services Division using SPSS software.

Notes:

(1) Current prevalence was defined as those who answered "yes" to both "Have you ever been told by a doctor or other health professional that you had asthma?" (Table 6) and "Do you still have asthma?"

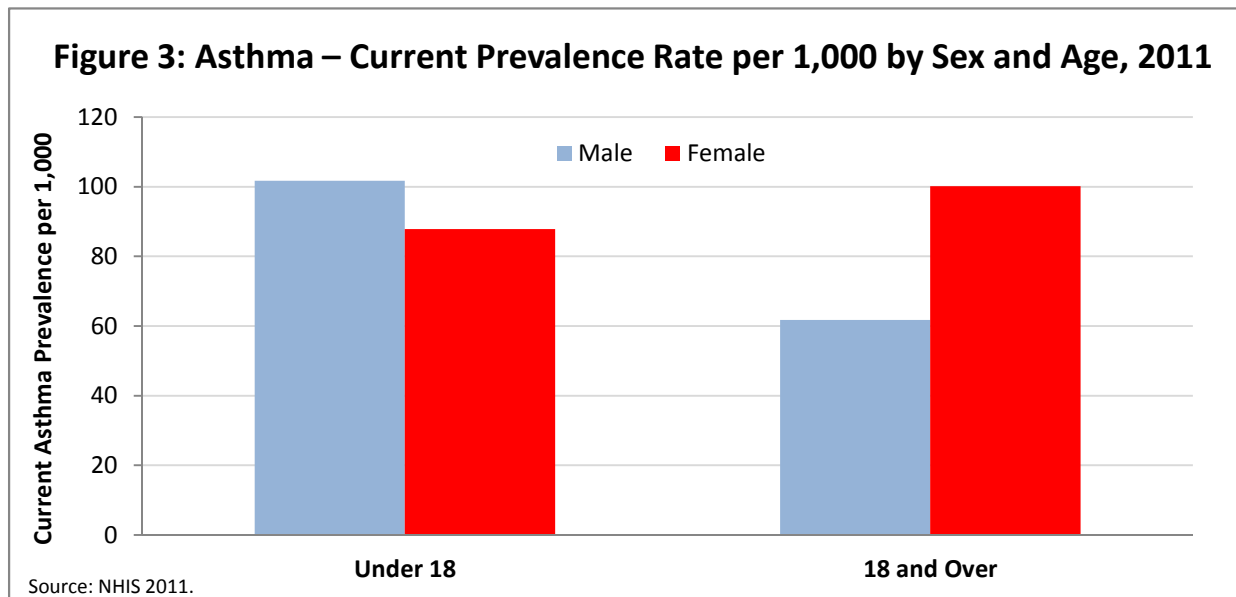


Table 9: Asthma - Number of Conditions and Prevalence Rate per 1,000 population by Race and Age, 2001-2011 (Current Prevalence) ⁽¹⁾

White												
Year	All Ages		Under 5		5-17		18-44		45-64		65+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2001	15,897,376	71.9	689,084	46.3	3,836,665	95.6	6,209,214	73.3	3,491,749	66.6	1,670,664	57.7
2002	15,475,067	69.4	681,148	45.7	3,515,172	87.0	5,806,930	68.8	3,753,208	69.5	1,718,609	59.1
2003	15,764,764	66.7	712,084	45.5	3,582,880	85.7	5,637,921	62.6	4,085,667	70.1	1,746,212	57.2
2004	16,390,255	69.2	782,879	49.9	3,709,265	89.4	5,604,879	62.6	4,120,743	69.4	2,172,489	70.5
2005	17,594,734	73.6	822,609	51.8	3,477,676	91.1	6,112,174	68.2	4,557,893	74.5	2,314,382	74.8
2006	18,102,518	76.1	842,705	53.5	4,170,650	101.2	6,411,485	73.2	4,564,948	73.5	2,112,730	68.0
2007	17,818,348	74.5	801,099	51.3	3,608,489	88.1	6,417,722	73.1	4,616,492	73.1	2,374,546	75.2
2008	17,922,870	74.4	805,346	50.4	3,838,544	94.2	6,335,706	72.5	4,629,422	71.9	2,313,852	71.6
2009	18,919,628	78.1	775,660	47.9	3,914,797	95.9	6,700,247	77.1	4,977,889	75.9	2,551,035	77.6
2010	19,430,738	79.5	738,938	45.2	3,909,229	95.2	6,571,063	75.5	5,507,608	83.1	2,703,900	80.3
2011	19,731,872	80.4	892,043	55.3	3,787,112	92.0	6,696,659	77.0	5,831,131	87.3	2,524,927	73.7

Black												
Year	All Ages		Under 5		5-17		18-44		45-64		65+	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2001	3,053,514	88.2	323,209	109.7	960,289	116.9	1,089,907	76.6	488,195	74.8	191,914	70.9
2002	3,355,658	95.7	373,140	126.1	1,030,164	125.5	1,201,855	83.9	586,386	85.8	164,113	59.6
2003	3,369,723	92.7	408,342	125.0	1,180,065	138.9	1,225,577	78.2	503,141	68.2	155,598	54.5
2004	3,478,451	94.2	292,406	88.6	1,222,293	143.2	1,205,919	82.8	547,399	71.5	210,434	73.0
2005	3,721,281	100.1	469,857	141.1	1,099,549	129.2	1,291,843	89.1	587,452	74.5	272,580	91.9
2006	3,685,130	94.2	308,660	89.7	1,261,526	142.3	1,208,699	78.6	624,522	76.0	281,723	87.6
2007	4,045,683	103.2	496,932	142.9	1,403,745	159.3	1,205,631	79.3	689,291	80.2	250,084	80.0
2008	4,157,754	105.3	348,345	99.8	1,542,877	177.6	1,149,238	75.2	841,223	95.6	276,071	86.1
2009	4,509,125	111.5	501,832	142.0	1,562,485	179.1	1,335,096	85.3	871,405	95.1	238,307	71.0
2010	4,977,902	121.9	443,815	123.9	1,460,028	169.2	1,837,603	116.2	909,310	96.5	327,146	96.5
2011	4,795,671	118.0	494,175	140.8	1,476,851	173.4	1,648,714	104.6	856,344	91.2	319,587	92.1

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 2001-2011. Analysis by the American Lung Association Research and Program Services Division using SPSS software.

Notes:

(1) Current prevalence was defined as those who answered "yes" to both "Have you ever been told by a doctor or other health professional that you had asthma?" (Table 6) and "Do you still have asthma?"

Table 10: Asthma – Number of People Who Had an Attack or Episode and Prevalence Rate per 1,000 population by Age, Sex and Race, 2004-2011 (Attack Prevalence) ⁽¹⁾

	2004		2005		2006		2007		2008		2009		2010		2011	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Total	11,684,355	40.5	12,233,688	42.0	12,443,111	42.4	12,308,749	41.5	12,726,197	42.6	12,823,621	42.6	13,882,868	45.6	13,177,942	43.1
Age																
<5	781,424	39.1	893,310	44.0	923,306	45.2	850,544	41.3	848,244	40.8	954,936	45.2	986,364	46.1	936,237	44.1
5-17	3,193,643	60.2	2,922,723	55.1	3,147,874	59.3	2,976,960	56.0	3,287,958	62.0	3,101,697	58.7	3,280,055	61.6	3,135,072	58.8
<18	3,975,067	54.4	3,816,033	52.0	4,071,180	55.4	3,827,504	51.9	4,136,202	56.0	4,056,633	54.8	4,266,419	57.2	4,071,309	54.6
18-44	3,877,444	35.1	4,538,617	41.1	4,133,895	37.4	4,289,594	38.7	4,302,711	38.9	4,484,011	40.6	4,581,795	41.4	4,287,169	38.7
45-64	2,743,583	39.1	2,814,887	38.9	3,225,412	43.5	2,957,884	38.8	3,201,220	41.3	3,192,957	40.3	3,673,866	45.8	3,582,734	44.3
65+	1,088,261	31.5	1,064,151	30.4	1,012,624	28.4	1,233,767	34.1	1,086,064	29.2	1,090,020	28.8	1,360,788	35.2	1,236,730	32.6
>18	7,709,288	35.8	8,417,655	38.7	8,371,931	38.0	8,481,245	38.0	8,589,995	38.1	8,766,988	38.6	9,616,449	41.9	9,106,633	39.4
Sex																
Male	5,164,431	36.7	4,833,535	33.9	4,958,737	34.5	4,858,810	33.4	5,418,404	37.0	5,198,543	35.2	5,391,354	36.2	5,144,730	34.3
Female	6,519,924	44.3	7,400,153	49.8	7,484,374	49.9	7,449,939	49.2	7,307,793	47.9	7,625,078	49.6	8,491,514	54.8	8,033,212	51.6
Race																
White	9,282,163	39.2	9,829,145	41.1	9,894,621	41.6	9,628,157	40.3	9,735,407	40.4	9,811,378	40.5	10,625,051	43.5	10,013,495	40.8
<5	557,772	35.5	540,648	34.0	682,037	43.3	508,885	32.6	547,288	34.3	620,090	38.3	624,705	38.2	595,142	36.9
5-17	23,414,442	56.4	2,245,862	54.0	2,307,950	56.0	2,107,139	51.4	2,215,470	54.4	2,069,829	50.7	2,300,854	56.0	2,147,896	52.2
18-44	3,112,209	34.8	3,647,258	40.7	3,340,080	38.1	3,406,015	38.8	3,472,952	39.7	3,591,903	41.3	3,478,860	40.0	3,295,497	37.9
45-64	2,323,470	39.1	2,498,698	40.9	2,727,915	43.9	2,503,344	39.6	2,556,822	39.7	2,601,369	39.6	3,011,307	45.4	2,914,217	43.6
65+	947,270	30.7	896,679	29.0	836,639	26.9	1,102,774	34.9	942,875	29.2	928,187	28.2	1,209,325	35.9	1,060,743	31.0
Black	2,031,045	55.0	1,821,757	49.0	1,921,835	49.1	2,081,926	53.1	2,310,002	58.5	2,284,600	56.5	2,439,347	59.7	2,437,516	60.0
<5	215,308	65.3	286,893	86.1	217,268	63.2	302,700	87.0	211,781	60.7	283,769	80.3	245,055	68.4	290,127	82.6
5-17	736,672	86.3	534,281	62.8	697,787	78.7	698,916	79.3	900,544	103.6	863,651	99.0	814,486	94.4	777,403	91.3
18-44	613,177	42.1	627,619	43.3	615,762	40.0	653,044	42.9	635,252	41.5	668,509	42.7	804,117	50.9	782,034	49.6
45-64	340,064	44.4	262,489	33.3	292,257	35.6	326,682	38.0	447,113	50.8	378,268	41.3	465,933	49.5	478,940	51.0
65+	125,824	43.7	110,475	37.3	98,761	30.7	100,584	32.2	115,312	36.0	90,403	26.9	109,756	32.4	109,012	31.4

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 2004-2011. Analysis by the American Lung Association Research and Program Services Division using SPSS software.

Note:

(1) Attack prevalence is defined as answering yes to "Have you ever been told by a doctor or other health professional that you had asthma?" and "During the past 12 months, have you had an episode of asthma or asthma attack?"

Table 11: Asthma – Number of Conditions and Prevalence Rate per 1,000 population by Ethnic Origin, 2001-2011

	Hispanic		Non-Hispanic White		Non-Hispanic Black		Non-Hispanic Others ⁽¹⁾	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Lifetime Prevalence⁽²⁾								
2001	3,232,703	94.7	22,607,687	115.3	4,291,178	126.2	1,222,089	99.1
2002	2,925,277	83.0	21,850,318	111.2	4,736,386	137.7	1,309,144	103.5
2003	3,478,767	87.5	20,663,795	104.0	4,563,212	129.3	1,061,767	86.1
2004	3,436,124	84.3	20,982,719	105.7	4,734,121	132.9	1,036,486	77.2
2005	3,876,926	91.9	22,426,806	112.5	4,904,487	136.1	1,412,314	103.9
2006	4,245,710	97.6	23,183,063	117.4	5,063,688	135.7	1,639,119	106.2
2007	4,624,043	102.3	22,616,361	114.7	5,010,098	132.6	1,757,088	105.3
2008	4,676,998	100.8	25,764,148	130.2	6,133,131	160.6	1,856,099	111.8
2009	5,275,939	110.3	26,529,060	133.7	6,340,872	165.2	1,340,699	80.0
2010	5,388,890	109.4	25,278,591	127.0	6,692,446	171.9	1,830,945	108.3
2011	5,782,040	115.0	25,340,392	127.1	6,468,026	167.8	1,913,865	108.5
Current Prevalence⁽³⁾								
2001	2,007,520	58.8	14,603,075	74.5	2,933,767	86.2	736,241	59.7
2002	1,726,590	49.0	14,245,694	72.5	3,271,962	95.1	781,470	61.8
2003	2,198,710	55.3	13,750,543	69.2	3,269,269	92.6	617,479	50.1
2004	2,123,900	52.1	14,475,412	72.9	3,355,168	94.2	590,356	44.0
2005	2,622,402	62.2	15,206,366	76.3	3,578,998	99.3	819,612	60.3
2006	2,774,937	63.8	15,588,033	78.9	3,490,816	93.5	1,022,199	66.2
2007	3,086,458	68.3	15,023,012	76.2	3,868,248	102.4	901,423	54.0
2008	2,696,473	58.1	15,471,719	78.2	4,029,342	105.5	1,119,968	67.4
2009	2,996,973	62.7	16,253,548	81.9	4,297,353	112.0	1,018,815	60.8
2010	3,608,908	73.3	16,191,150	81.3	4,741,843	121.8	1,168,378	69.1
2011	3,637,539	72.3	16,555,530	83.0	4,510,609	117.0	1,238,932	70.2
Attack Prevalence⁽⁴⁾								
2001	1,164,204	34.1	8,581,795	43.8	1,847,680	54.3	392,380	31.8
2002	1,087,489	30.8	8,401,593	42.8	1,895,262	55.1	523,847	41.4
2003	1,317,684	33.2	7,494,952	37.7	1,823,502	51.7	409,750	33.2
2004	1,242,176	30.5	8,162,307	41.1	1,948,083	54.7	331,788	24.7
2005	1,556,114	36.9	8,435,306	42.3	1,715,563	47.6	526,705	38.7
2006	1,606,472	36.9	8,442,077	42.7	1,801,492	48.3	593,070	38.4
2007	1,847,798	40.9	7,985,031	40.5	1,949,084	51.6	526,836	31.6
2008	1,563,994	33.7	8,336,575	42.1	2,230,905	58.4	594,723	35.8
2009	1,641,374	34.3	8,339,631	42.0	2,169,485	56.5	673,131	40.2
2010	1,964,811	39.9	8,819,135	44.3	2,346,008	60.3	752,914	44.5
2011	1,748,317	34.8	8,436,662	42.3	2,333,690	60.5	659,273	37.4

Source: Centers for Disease Control and Prevention. National Center for Health Statistics. National Health Interview Survey, 1998-2011. Analysis by the American Lung Association Research and Program Services Division using SPSS software.

Notes:

(1) Does not include non-Hispanic Whites and Blacks.

(2) Lifetime prevalence was defined as answering "yes" to "Have you ever been told by a health professional that you had asthma?"

(3) Current prevalence was defined as answering "yes" to both "Have you ever been told by a health professional that you had asthma?" and "Do you still have asthma?"

(4) Attack prevalence was defined as answering yes to "Have you ever been told by a health professional that you had asthma?" and "During the past 12 months, have you had an episode of asthma or asthma attack?"

Table 12: Asthma – Estimated Prevalence (%) in Children and Adults by State and Period, 2011 ⁽¹⁾

State	Children				Adults			
	Lifetime ⁽²⁾		Current ⁽³⁾		Lifetime ⁽²⁾		Current ⁽³⁾	
	Number	%	Number	%	Number	%	Number	%
Alabama	166,227	14.8	116,825	10.5	433,374	11.9	288,643	8.0
Alaska	---	---	---	---	73,017	14.0	42,528	8.2
Arizona	221,848	13.0	143,613	8.4	676,060	14.1	457,715	9.6
Arkansas	---	---	---	---	313,080	14.2	208,766	9.5
California	1,029,495	11.8	622,319	7.2	3,913,878	14.0	2,342,302	8.4
Colorado	---	---	---	---	492,159	12.9	315,224	8.3
Connecticut	130,374	16.1	90,843	11.3	407,367	14.8	272,115	9.9
Delaware	---	---	---	---	96,673	14.0	67,931	9.8
District of Columbia	25,673	22.9	20,463	18.4	77,009	15.8	48,898	10.1
Florida	---	---	---	---	1,813,986	12.3	1,117,441	7.6
Georgia	---	---	---	---	1,011,765	14.1	686,976	9.6
Hawaii	54,506	18.0	32,882	10.9	169,687	16.2	99,595	9.5
Idaho	---	---	---	---	151,581	13.2	105,593	9.2
Illinois	336,767	10.7	226,933	7.2	1,308,121	13.5	787,478	8.1
Indiana	208,392	13.2	148,408	9.5	676,723	13.9	464,346	9.6
Iowa	60,709	8.4	41,623	5.8	273,586	11.8	191,945	8.3
Kansas	78,773	11.1	57,529	8.2	274,437	12.9	186,078	8.8
Kentucky	---	---	---	---	499,932	15.0	345,331	10.4
Louisiana	124,574	11.4	86,905	8.0	377,490	11.1	217,709	6.4
Maine	34,256	12.7	21,365	7.9	177,152	16.8	126,472	12.0
Maryland	168,878	12.6	123,170	9.2	610,254	13.8	372,775	8.5
Massachusetts	228,674	16.4	164,776	11.8	785,509	15.3	545,732	10.7
Michigan	328,428	14.5	225,354	10.0	1,117,821	14.8	744,180	9.9
Minnesota	---	---	---	---	437,900	10.9	279,607	7.0
Mississippi	105,960	14.0	66,253	8.8	273,035	12.4	169,009	7.7
Missouri	152,720	10.8	110,962	7.9	629,418	13.8	416,328	9.2
Montana	23,145	10.4	15,012	6.8	102,855	13.4	69,629	9.1
Nebraska	40,801	8.8	27,898	6.1	155,969	11.5	99,562	7.3
Nevada	73,257	10.5	40,882	5.9	279,687	13.8	162,040	8.1
New Hampshire	---	---	---	---	158,505	15.4	112,813	11.0
New Jersey	263,184	13.1	173,852	8.7	874,566	13.0	602,960	9.0
New Mexico	73,386	14.2	51,931	10.1	235,128	15.3	154,017	10.0
New York	643,338	14.9	407,777	9.5	2,178,919	14.5	1,445,168	9.7
North Carolina	---	---	---	---	955,925	13.2	639,337	8.8
North Dakota	12,376	8.3	8,607	5.8	59,579	11.5	41,498	8.1
Ohio	364,035	13.9	261,965	10.0	1,203,226	13.6	862,683	9.8
Oklahoma	125,278	13.4	87,749	9.4	405,810	14.4	269,968	9.6
Oregon	120,178	13.9	81,148	9.5	494,614	16.7	308,491	10.4
Pennsylvania	377,006	13.8	272,748	10.0	1,275,179	12.9	887,934	9.0
Rhode Island	41,650	18.9	28,261	12.9	134,642	16.3	97,496	11.8
South Carolina	---	---	---	---	458,615	12.9	290,733	8.2
South Dakota	---	---	---	---	68,887	11.2	41,958	6.9
Tennessee	189,961	13.7	132,283	9.6	506,414	10.4	351,078	7.2
Texas	992,826	14.3	556,773	8.0	2,253,427	12.3	1,352,057	7.4
Utah	88,908	10.5	57,226	6.8	261,816	13.5	169,987	8.8
Vermont	15,222	12.1	9,971	8.0	78,800	15.8	55,067	11.1
Virginia	---	---	---	---	788,458	12.8	535,915	8.7
Washington	193,640	12.3	111,619	7.1	741,700	14.4	498,789	9.7
West Virginia	44,515	11.6	29,208	7.6	174,266	12.0	133,552	9.2
Wisconsin	144,735	11.2	98,409	7.6	522,197	11.9	401,078	9.2
Wyoming	---	---	---	---	57,046	13.4	38,566	9.1
United States	---	---	---	---	31,497,244	13.4	20,523,093	8.8

Source: Behavioral Risk Factor Surveillance Survey, 2011.

Note:

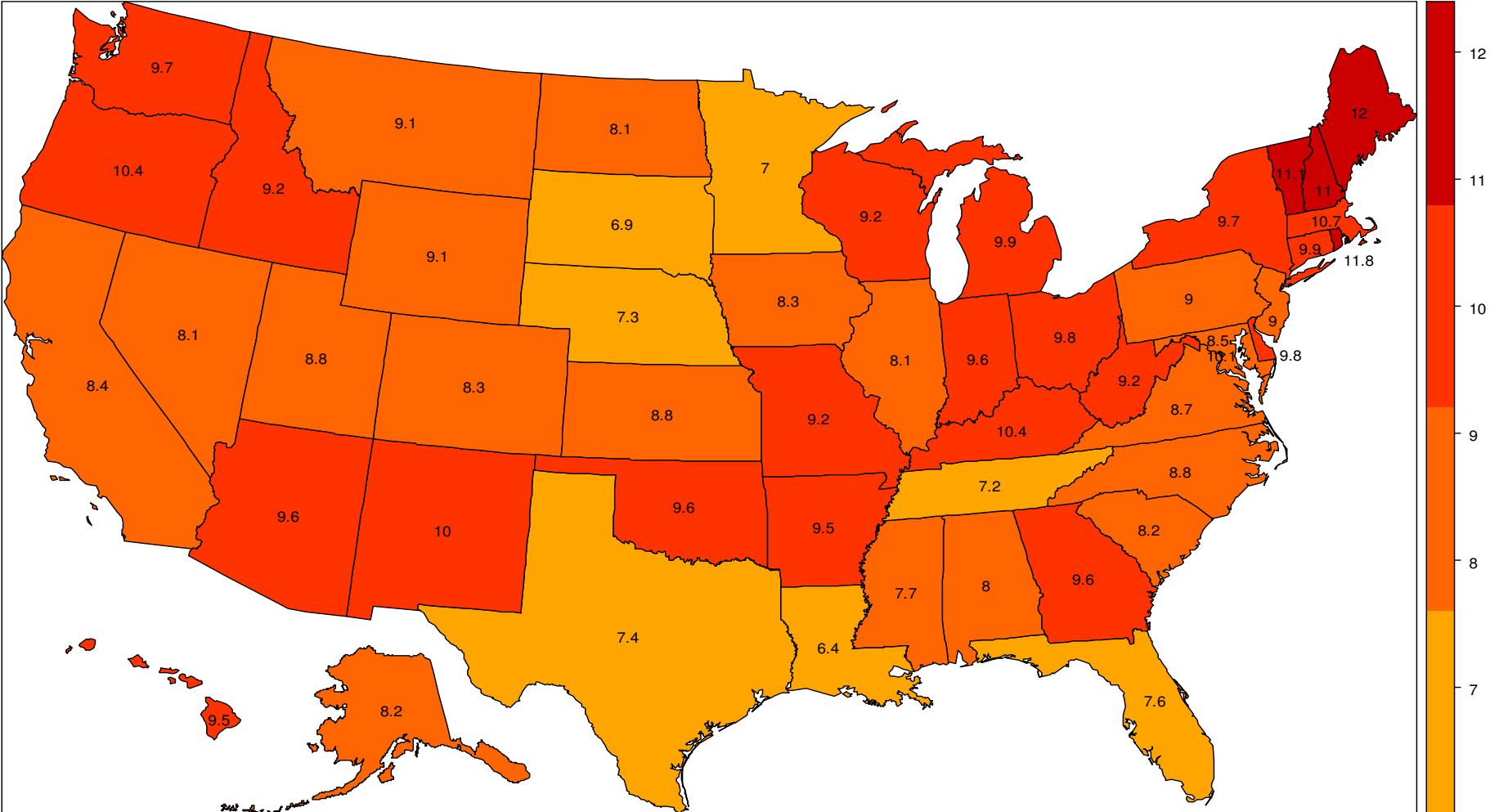
(1) Due to significant methodology changes in 2011 to the survey used to obtain these data, comparisons with previous years are not advisable. Child data come from an optional add-on module which not every state chooses to administer.

(1) Lifetime prevalence was defined as answering yes to "Have you ever been told by a doctor, nurse or other health professional that you had asthma?"

(2) Current prevalence was defined as answering "yes" to both "Have you ever been told by a doctor, nurse or other health professional that you had asthma?" and "Do you still have asthma?" Percent with current asthma is among those ever diagnosed with asthma.

--- Data not available.

Figure 4: Asthma - Current Adult Prevalence (%) by State, 2011



Source: BRFSS 2011.

Note: Due to significant methodology changes in 2011 to the survey used to obtain these data, comparisons with previous years are not advisable.

Table 13: Asthma – Lifetime Prevalence in Children by State, 2006-2010 ^(1,2)

State	2006		2007		2008		2009		2010	
	Number	%	Number	%	Number	%	Number	%	Number	%
Alabama	---	---	---	---	---	---	---	---	158,131	14.5
Alaska	18,280	9.8	20,830	11.0	---	---	---	---	---	---
Arizona	225,386	14.3	217,163	13.6	200,272	12.1	---	---	217,092	12.4
Arkansas	---	---	---	---	---	---	---	---	---	---
California	1,186,312	12.6	1,289,140	13.2	1,116,129	12.3	989,810	11.3	1,365,044	11.7
Colorado	---	---	---	---	---	---	---	---	---	---
Connecticut	---	---	117,845	14.6	131,713	16.6	137,068	17.3	121,931	15.3
Delaware	---	---	---	---	---	---	37,530	18.2	---	---
District of Columbia	20,016	19.3	22,521	19.9	20,871	18.8	22,548	20.4	24,448	22.4
Florida	---	---	---	---	---	---	---	---	---	---
Georgia	330,289	14.3	360,410	15.3	392,262	16.1	382,048	15.3	365,608	14.5
Hawaii	61,505	20.6	55,478	18.2	54,355	18.8	50,707	18.0	47,952	16.9
Idaho	35,786	9.5	---	---	32,988	8.8	36,020	8.8	---	---
Illinois	---	---	363,467	11.3	382,223	12.1	414,661	13.1	430,621	13.6
Indiana	192,803	12.3	179,341	11.3	203,773	13.0	226,662	14.7	208,223	13.4
Iowa	61,518	9.1	57,575	8.7	60,426	9.3	47,593	6.8	62,517	8.8
Kansas	80,438	11.9	75,716	11.2	83,766	12.3	82,933	12.1	72,624	10.4
Kentucky	128,178	13.3	---	---	137,023	14.0	---	---	147,357	14.7
Louisiana	---	---	---	---	---	---	154,689	14.4	126,786	11.6
Maine	34,267	12.4	36,508	13.3	38,342	14.0	---	---	45,127	13.1
Maryland	179,950	13.1	188,966	13.7	190,389	14.3	227,847	17.2	217,026	16.5
Massachusetts	---	---	234,222	12.8	106,293	12.1	247,511	13.2	246,043	12.2
Michigan	315,704	12.7	350,245	14.2	374,252	15.8	268,410	11.4	329,400	14.4
Minnesota	115,806	9.5	---	---	---	---	---	---	---	---
Mississippi	105,528	14.3	109,587	14.8	91,012	14.2	110,304	14.7	99,614	13.2
Missouri	187,220	13.8	179,697	13.0	199,884	14.5	---	---	203,591	14.5
Montana	20,378	9.9	19,664	9.6	21,815	10.3	19,906	9.2	20,808	9.6
Nebraska	43,846	10.1	48,234	11.1	34,946	8.0	39,348	8.9	38,489	8.6
Nevada	73,097	11.8	65,582	10.3	72,291	11.4	70,492	10.7	70,576	10.6
New Hampshire	39,012	13.2	33,327	11.3	34,633	12.1	---	---	---	---
New Jersey	324,682	15.4	365,794	14.3	262,557	13.1	285,676	14.3	284,478	14.2
New Mexico	---	---	63,853	13.0	56,810	11.3	64,259	11.7	61,258	12.2
New York	664,779	15.0	718,245	16.1	707,399	16.1	706,328	16.6	---	---
North Carolina	---	---	---	---	---	---	---	---	---	---
North Dakota	---	---	---	---	10,678	7.6	13,068	9.2	13,953	9.8
Ohio	263,038	9.7	371,762	13.7	367,102	13.6	427,044	12.6	381,652	11.4
Oklahoma	110,537	13.0	132,346	15.5	121,927	13.8	132,770	12.2	126,775	14.0
Oregon	105,685	12.6	100,186	11.9	81,532	9.9	135,295	13.3	100,200	11.8
Pennsylvania	328,385	12.0	405,170	14.7	375,644	13.8	398,333	14.8	389,382	14.3
Rhode Island	38,493	16.5	---	---	38,959	17.1	35,308	15.8	33,076	15.1
South Carolina	---	---	---	---	---	---	---	---	---	---
South Dakota	---	---	---	---	---	---	---	---	---	---
Tennessee	---	---	---	---	---	---	---	---	131,590	8.9
Texas	833,627	13.5	940,562	12.6	910,031	14.2	873,232	13.3	780,663	11.6
Utah	68,649	9.1	88,037	11.7	77,218	9.9	88,888	10.9	80,731	9.5
Vermont	16,920	12.9	16,118	12.4	18,822	14.5	19,947	15.6	17,913	14.1
Virginia	256,766	14.4	238,420	13.2	257,563	14.7	216,396	12.1	---	---
Washington	---	---	---	---	---	---	170,137	11.2	159,525	10.4
West Virginia	42,132	11.3	51,331	13.7	56,091	14.8	47,463	12.7	39,981	10.6
Wisconsin	130,541	10.1	167,058	10.4	149,941	9.3	126,280	9.8	152,871	11.7
Wyoming	12,737	10.9	---	---	10,139	8.4	---	---	12016	9.3

Source: Behavioral Risk Factor Surveillance Survey, 2006-2010.

Note:

(1) Lifetime prevalence was defined as answering yes to "Has the child ever been told by a doctor, nurse or other health professional that they had asthma?"

(2) Due to significant methodology changes in 2011 to the survey used to obtain these data, comparisons with previous years are not advisable. As only 16 states included the childhood asthma module in 2011, these data are not being included here until additional years using the new methodology are available.

--- Data not available.

Table 14: Asthma – Current Prevalence in Children by State, 2006-2010 ^(1,2)

State	2006		2007		2008		2009		2010	
	Number	%	Number	%	Number	%	Number	%	Number	%
Alabama	---	---	---	---	---	---	---	---	125,325	11.5
Alaska	12,857	6.9	13,121	6.9	---	---	---	---	---	---
Arizona	158,993	10.1	118,151	7.4	135,062	8.2	---	---	164,767	9.4
Arkansas	---	---	---	---	---	---	---	---	---	---
California	786,201	8.3	743,366	7.6	644,122	7.1	582,005	6.6	758,479	6.5
Colorado	---	---	---	---	---	---	---	---	---	---
Connecticut	78,932	8.2	76,562	9.5	87,552	11.1	94,930	12.0	89,280	11.2
Delaware	---	---	---	---	---	---	27,827	13.5	---	---
District of Columbia	14,751	14.2	17,896	15.8	13,955	12.6	15,414	13.9	19,605	18.0
Florida	---	---	---	---	---	---	---	---	---	---
Georgia	231,259	10.0	228,590	9.7	291,215	11.9	246,939	9.9	227,224	9.0
Hawaii	36,804	12.3	36,802	12.1	36,638	12.7	31,681	11.2	31,316	11.0
Idaho	23,705	6.3	---	---	24,815	6.6	18,842	4.6	---	---
Illinois	---	---	250,015	7.8	267,681	8.5	294,587	9.3	312,122	9.8
Indiana	130,676	8.4	125,651	7.9	132,798	8.5	150,780	9.8	136,202	8.8
Iowa	44,092	6.5	34,011	5.1	43,349	6.6	33,338	4.8	44,121	6.2
Kansas	61,972	9.2	55,421	8.2	61,274	9.0	56,859	8.3	52,720	7.5
Kentucky	89,884	9.3	---	---	92,652	9.5	---	---	106,359	10.6
Louisiana	---	---	---	---	---	---	101,210	9.4	91,058	8.3
Maine	23,761	8.6	23,228	8.5	25,586	9.4	---	---	27,121	7.9
Maryland	124,398	9.1	123,400	8.9	127,173	9.5	158,416	11.9	155,880	11.8
Massachusetts	---	---	166,223	9.1	164,219	8.8	164,415	8.8	168,163	8.4
Michigan	211,524	8.5	243,470	9.9	254,583	10.7	191,531	8.1	253,586	11.1
Minnesota	85,072	7.0	---	---	---	---	---	---	---	---
Mississippi	75,264	10.2	76,710	10.4	65,488	10.2	78,025	10.4	64,743	8.6
Missouri	133,051	9.8	118,649	8.6	140,278	10.2	---	---	152,888	10.9
Montana	13,610	6.6	14,181	6.9	14,301	6.7	13,846	6.4	14,881	6.9
Nebraska	28,848	6.7	36,515	8.4	26,887	6.1	22,988	5.2	27,308	6.1
Nevada	43,927	7.1	40,300	6.3	46,709	7.4	45,517	6.9	57,225	8.6
New Hampshire	26,981	9.1	22,164	7.5	24,709	8.6	---	---	---	---
New Jersey	219,880	10.4	256,969	10.1	171,080	8.5	182,045	9.1	179,320	9.0
New Mexico	---	---	42,012	8.6	38,309	7.6	39,939	7.3	39,874	8.0
New York	473,648	10.7	514,553	11.6	467,137	10.6	427,503	10.0	---	---
North Carolina	---	---	---	---	---	---	---	---	---	---
North Dakota	---	---	---	---	7,666	5.4	8,114	5.7	9,099	6.4
Ohio	219,361	8.1	237,040	8.7	252,161	9.4	291,395	8.7	257,779	7.7
Oklahoma	72,864	8.6	93,099	10.9	88,363	10.0	101,485	9.3	92,098	10.2
Oregon	72,348	8.6	69,699	8.3	46,436	5.6	83,678	8.3	64,066	7.5
Pennsylvania	228,568	8.4	291,722	10.6	267,171	9.8	276,710	10.3	258,689	9.5
Rhode Island	24,686	10.6	---	---	28,135	12.4	24,588	11.0	25,502	11.7
South Carolina	---	---	---	---	---	---	---	---	---	---
South Dakota	---	---	---	---	---	---	---	---	---	---
Tennessee	---	---	---	---	---	---	---	---	81,588	5.5
Texas	579,987	9.4	632,698	8.5	588,082	9.2	535,324	8.2	508,466	7.6
Utah	49,192	6.5	58,718	7.8	51,881	6.6	59,327	7.3	58,302	6.9
Vermont	12,202	9.3	10,082	7.7	12,804	9.9	12,909	10.1	12,583	9.9
Virginia	185,046	10.4	137,364	7.6	169,670	9.7	147,139	8.3	---	---
Washington	---	---	---	---	---	---	103,744	6.8	92,512	6.0
West Virginia	31,079	8.3	38,326	10.2	43,464	11.5	31,600	8.5	24,620	6.5
Wisconsin	95,916	7.4	127,232	7.9	116,603	7.2	89,025	6.9	115,704	8.9
Wyoming	9,970	8.6	---	---	7,239	6.0	---	---	8,551	6.6

Source: Behavioral Risk Factor Surveillance Survey, 2006-2010.

Note:

(1) Current prevalence was defined as answering yes to "Has the child ever been told by a doctor, nurse or other health professional that they had asthma?" and "Do they still have asthma?" Percent with current asthma is among those ever diagnosed with asthma.

(2) Due to significant methodology changes in 2011 to the survey used to obtain these data, comparisons with previous years are not advisable. As only 16 states included the childhood asthma module in 2011, these data are not being included here until additional years using the new methodology are available.

--- Data not available.

Table 15: Asthma – Number of First-Listed Hospital Discharges and Rate per 10,000 population by Sex, 1989-2010

Year	Total ⁽¹⁾		Male		Female	
	Number	Rate	Number	Rate	Number	Rate
1989	475,000	19.3	204,000	17.1	271,000	21.3
1990	476,000	19.1	191,000	15.8	285,000	22.2
1991	490,000	19.6	221,000	18.2	269,000	20.9
1992	463,000	18.3	201,000	16.3	263,000	20.1
1993	468,000	18.3	191,000	15.3	278,000	21.1
1994	451,000	17.4	189,000	15.0	262,000	19.7
1995	511,000	19.5	210,000	16.5	301,000	22.4
1996	474,000	17.9	195,000	15.1	279,000	20.6
1997	484,000	17.9	204,000	15.4	279,000	20.2
1998	423,000	15.5	168,000	12.6	255,000	18.3
1999	478,000	17.4	190,000	14.1	288,000	20.4
2000	465,000	16.7	198,000	14.5	267,000	18.8
2001	454,000	16.0	186,000	13.4	268,000	18.5
2002	484,000	16.9	196,000	13.9	288,000	19.7
2003	574,000	19.8	232,000	16.3	342,000	23.2
2004	497,000	17.0	207,000	14.5	290,000	19.4
2005	489,000	16.6	192,000	13.3	296,000	19.7
2006	444,000	14.9	177,000	12.1	266,000	17.6
2007	456,000	15.2	182,000	12.3	274,000	17.9
2008	451,000	14.9	172,000	11.6	278,000	18.1
2009	479,000	15.7	192,000	12.7	288,000	18.5
2010	439,000	14.3	163,000	10.7	277,000	17.7

Source: National Center for Health Statistics. National Hospital Discharge Survey, 1989-2010.

Notes:

(1) Due to rounding, numbers across may not add to the total number of hospital discharges.

Table 16: Asthma – Number of First-Listed Hospital Discharges and Rate per 10,000 population by Age, 1989-2010

Year	<15		15-44		45-64		65+		Total ⁽¹⁾	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1989	168,000	31.2	127,000	11.0	88,000	19.0	93,000	29.9	475,000	19.3
1990	169,000	30.8	119,000	10.3	86,000	18.2	102,000	32.4	476,000	19.1
1991	187,000	33.9	128,000	10.9	85,000	18.2	90,000	28.5	490,000	19.6
1992	193,000	34.4	117,000	10.0	78,000	16.1	76,000	23.6	463,000	18.3
1993	159,000	28.0	128,000	10.9	94,000	19.0	87,000	26.6	468,000	18.3
1994	169,000	29.5	125,000	10.6	80,000	15.7	76,000	22.9	451,000	17.4
1995	212,000	36.7	135,000	11.4	87,000	16.7	77,000	23.0	511,000	19.5
1996	195,000	33.8	132,000	11.1	88,000	16.4	59,000	17.4	474,000	17.9
1997	214,000	35.8	117,000	9.6	88,000	15.9	65,000	19.2	484,000	17.9
1998	166,000	27.7	104,000	8.6	92,000	16.2	60,000	17.7	423,000	15.5
1999	190,000	31.5	122,000	10.0	94,000	15.9	73,000	21.3	478,000	17.4
2000	203,000	33.6	111,000	9.1	84,000	13.7	68,000	19.6	465,000	16.7
2001	182,000	30.1	104,000	8.4	92,000	14.3	76,000	21.4	454,000	16.0
2002	187,000	30.8	109,000	8.8	109,000	16.4	80,000	22.5	484,000	16.9
2003	213,000	35.0	127,000	10.2	125,000	18.3	109,000	30.5	574,000	19.8
2004	190,000	31.0	91,000	7.3	112,000	15.9	104,000	28.7	497,000	17.0
2005	159,000	26.2	98,000	7.8	119,000	16.4	112,000	30.5	489,000	16.6
2006	145,000	23.9	89,000	7.1	121,000	16.2	88,000	23.7	444,000	14.9
2007	151,000	24.8	86,000	6.9	123,000	16.0	96,000	25.4	456,000	15.2
2008	125,000	20.5	95,000	7.6	132,000	17.0	98,000	25.2	451,000	14.9
2009	135,000	21.9	97,000	7.7	132,000	16.7	115,000	29.0	479,000	15.7
2010	128,000	20.7	90,000	7.2	118,000	14.7	103,000	25.5	439,000	14.3

Source: National Center for Health Statistics. National Hospital Discharge Survey, 1989-2010.

Notes:

(1) Due to rounding, numbers across may not add to the total number of hospital discharges.

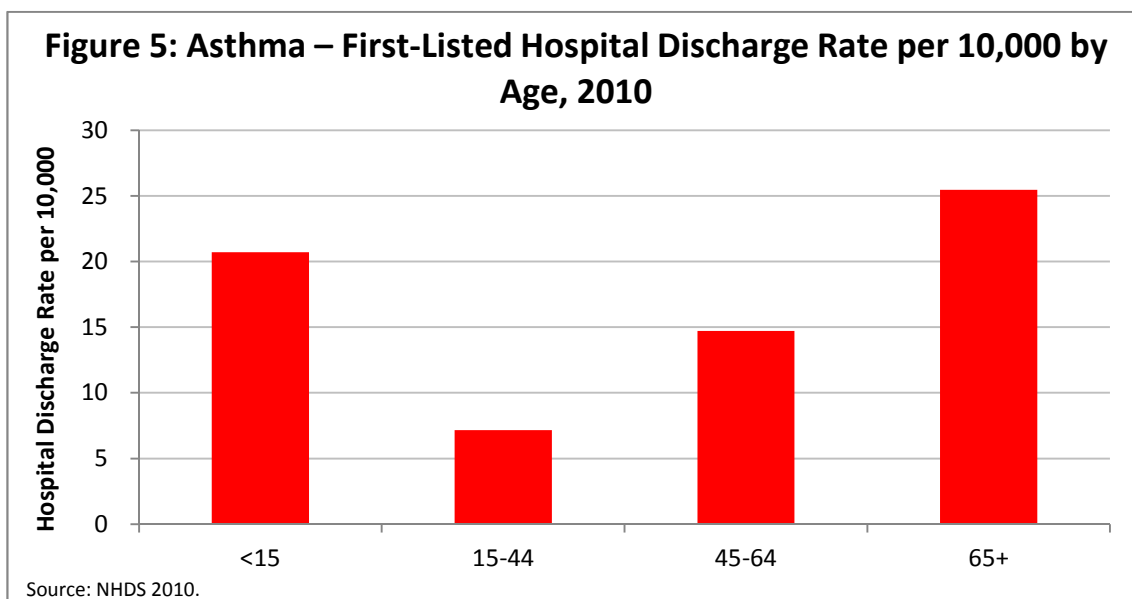


Table 17: Asthma – Number of First-Listed Hospital Discharges and Rate per 10,000 population by Race, 1989-2010

Year	Number					Rate			
	Total ⁽¹⁾	White	Black	All Other	Not Reported ⁽²⁾	Total	White	Black	All Other
1989	475,000	286,000	117,000	22,000	50,000	19.3	13.9	39.2	24.2
1990	476,000	263,000	116,000	19,000	78,000	19.1	12.7	38.3	19.8
1991	490,000	269,000	120,000	23,000	78,000	19.6	12.8	38.9	22.9
1992	463,000	215,000	134,000	25,000	89,000	18.3	10.2	42.8	23.8
1993	468,000	246,000	103,000	22,000	97,000	18.3	11.5	32.3	20.1
1994	451,000	227,000	125,000	29,000	70,000	17.4	10.5	38.6	26.0
1995	511,000	256,000	140,000	25,000	90,000	19.5	11.6	42.7	21.4
1996	474,000	237,000	133,000	33,000	70,000	17.9	10.8	40.1	27.6
1997	484,000	262,000	125,000	39,000	58,000	17.9	11.8	35.5	30.7
1998	423,000	222,000	115,000	28,000	58,000	15.5	10.0	32.2	21.0
1999	478,000	236,000	128,000	42,000	72,000	17.4	10.4	35.5	31.2
2000	465,000	234,000	117,000	18,000	79,000	16.7	10.3	32.9	10.3
2001	454,000	231,000	114,000	22,000	86,000	16.0	10.1	31.7	12.2
2002	484,000	244,000	131,000	19,000	90,000	16.9	10.5	36.0	9.9
2003	574,000	284,000	145,000	32,000	113,000	19.8	12.2	39.3	16.7
2004	497,000	236,000	126,000	35,000	100,000	17.0	10.0	33.9	17.3
2005	489,000	263,000	102,000	24,000	100,000	16.6	11.1	27.0	11.8
2006	444,000	228,000	112,000	14,000	89,000	14.9	9.6	29.3	6.7
2007	456,000	222,000	109,000	21,000	105,000	15.2	9.2	28.3	9.6
2008	451,000	216,000	114,000	27,000	94,000	14.9	8.9	29.4	12.2
2009	479,000	242,000	109,000	33,000	95,000	15.7	10.0	27.6	14.4
2010	439,000	221,000	114,000	27,000	78,000	14.3	9.0	28.5	11.6

Source: National Center for Health Statistics. National Hospital Discharge Survey, 1989-2010.

Notes:

(1) Includes White, Black and Other Race discharges as well as those of an unspecified race.

(2) Between 1989 and 2010, the number of discharges not reporting race increased dramatically. It appears that hospital discharges in Whites might be disproportionately underestimated, particularly in later years. For this reason, comparisons between races should be made with caution.

Table 18: Asthma - Number of Visits to Physician Offices, Outpatient Departments and Emergency Departments, 1989-2009

Year	Physician Offices	Outpatient Departments	Emergency Departments
1989	6,822	---	---
1990	7,137	---	---
1991	---	---	---
1992	9,740	644	1,467
1993	11,340	1,022	1,686
1994	10,757	1,009	1,607
1995	9,026	1,301	1,865
1996	9,051	903	1,935
1997	9,834	1,097	1,917
1998	12,868	984	2,034
1999	9,498	1,310	1,997
2000	9,332	1,036	1,835
2001	11,280	1,286	1,665
2002	12,692	1,225	1,898
2003	12,855	1,512	1,753
2004	13,607	1,054	1,838
2005	12,823	1,304	1,770
2006	10,590	1,198	1,681
2007	13,872	1,408	1,754
2008	8,908	1,663	1,903
2009	10,564	1,174	2,070

Sources: National Ambulatory Medical Care Survey, 1989-2009, and National Hospital Ambulatory Medical Care Survey, 1992-2009.

Note:

--- Data not available.