

# Asthma in Iowa Adult Asthma Surveillance Report

Iowa Behavioral Risk Factor Surveillance System  
(BRFSS) Data : 1999-2006

Center for Health Statistics  
Iowa Department of Public Health  
2007

Web Site: <http://www.idph.ia.us/hpcdp/asthma.asp>

**In this Chapter on Adult Asthma Prevalence:**

- How many adults have asthma?
- What are the risk factors for having asthma?
- Who does well and who does poorly at managing their asthma?

**Chapter Contents: Narrative and Charts**

Background	C1
Key findings	C2
How data are presented	C3
Current/lifetime asthma	C4
Gender	C6
Age	C8
All Minorities by age/gender	C12
Specific Races by age/gender	C16
Education/income	C22
Education/income/race	C24
Exercise/weight	C26
Cigarette smoking	C27
Insurance coverage/health status	C28
Asthma attacks	C29
Activity limitations	C30
Medical visits to treat symptoms	C31
Prevalence of symptoms/ urgent care	C32

Preventive doctor visits	C34
Background on the BRFSS	C46
Background on Iowa Asthma Control Program	C46
Contact information/citations	C47

**Chapter Appendix**

**Adult BRFSS Tables**

## Background on Asthma Prevalence

For reasons not completely understood, asthma prevalence (the percentage of people with diagnosed asthma during the past year ) in the U.S. has doubled since 1979 making asthma a profound and expensive public health problem. More than 200,000 Iowans, including 148,000 Iowa adults, have diagnosed asthma. Some studies suggest that as much as half of all asthma remains undiagnosed.

Characterized by wheezing, coughing, chest tightness and shortness of breath, asthma symptoms may range from mild to severe. In extreme cases, asthma can be life-threatening.

When poorly managed over the long term, asthma can lead to irreversible loss of lung function, similar to that seen in chronic obstructive lung disease in smokers.

While no one yet knows how to prevent people from first developing asthma, proper self and medical management largely avert asthma's ill-effects, allowing those with asthma to maintain healthy and active lives.

# Summary of Key Findings from BRFSS

## Adult asthma prevalence rates

Iowa adults with the highest asthma prevalence rates are:

- Women, especially minority women;
- Low-income;
- High school dropouts;
- Of poor health overall;
- Current and former smokers; and
- Obese.

## Adult asthma prevalence case counts

Adult populations with the highest number of cases (as opposed to the highest rates) of asthma are:

- Women;
- Caucasian (men and women);
- Low or moderate income;
- High school graduates/have at least some college;
- Insured;
- Of poor health overall;
- Never-smokers;
- At least occasional participants in leisure exercises; and
- Obese.

## Asthma attack rates

Adults with asthma who are most likely to have had an asthma attack in the past 12 months are:

- Women; and
- Uninsured.

## Adults who seek emergency/urgent care for unmanaged symptoms

Those most likely to seek emergency department or urgent medical care for symptoms are:

- Women;
- Low or moderate income;
- Uninsured;
- Of poor health overall; and
- Nonparticipants in leisure exercises.

## How BRFSS Data are Presented

### Estimates of Iowa population rates and counts based on BRFSS sample data

In this chapter, estimated asthma prevalence rates and counts for the Iowa adult population (persons 18 years and older) and the differences between those rates and counts are presented by gender, race, and other key risk factors.

All data are taken from the Iowa Behavioral Risk Factor Surveillance System (BRFSS) database which began to collect information on asthma prevalence in 1999 and on asthma symptoms and on the use of services for asthma care in 2001. (In 2006, CDC initiated the voluntary Asthma Call-Back survey, which means that much of the BRFSS data after 2005 were collected using a different methodology than were data collected between 2001-2005 and may not be entirely comparable to one another. Due to the small sample size of the Asthma Call-Back Survey, data may not be available for subpopulations (race, income, educational attainment subgroups) for several years.)

## Estimates of Iowa population rates and counts based on BRFSS sample data

Current asthma prevalence is defined as the number of adults *who have diagnosed asthma at any point during the calendar year*, whether they were diagnosed during that year or previously.

Because the BRFSS collects self-reported data from a representative sample of Iowa adults and not from the whole Iowa population, data presented here are *estimates* of actual Iowa adult population prevalence counts and rates. These estimates are obtained by weighing the sample so that it better reflects the broader population of Iowa adults.

Prevalence rates are given in percentages and are calculated by dividing estimates of the number of adults in a population with asthma by the total number of adults in that population times 100. (e.g., The estimated number of noninstitutionalized women in Iowa with asthma (n=92,100) / total number of noninstitutionalized women in Iowa (n=1,126,000) \* 100 = 8.2% prevalence rate among Iowa women 18 years and older.) Asthma (and asthma risk-factors) given here are based on *weighted counts of the number of adults with asthma* (or an asthma risk factor) at the time they were interviewed for the BRFSS--regardless of when their case was diagnosed.

## Confidence intervals, statistically significant differences in rates provided

For estimated prevalence rates, 95% confidence intervals are provided in the tables at the end of this chapter.

Confidence intervals are the range of values on either side of the estimated rate that the actual Iowa population value will fall into 95% of the time.

If the confidence intervals do not overlap for any two estimates being compared, one can assume, with 95% confidence, that the difference in values seen for the estimated rates reflects a real difference in those two values for the actual Iowa adult population.

Narrative and charts that identify statistically significant differences refer to rates that have confidence intervals that do not overlap. Confidence intervals for estimated counts are also given. (Confidence intervals, prevalence rates and counts were derived from BRFSS data using the surveymeans procedure of Statistical Analysis System (SAS) software. Tables and charts were constructed in Microsoft Excel.)

## Multiple years of data aggregated to stabilize estimates

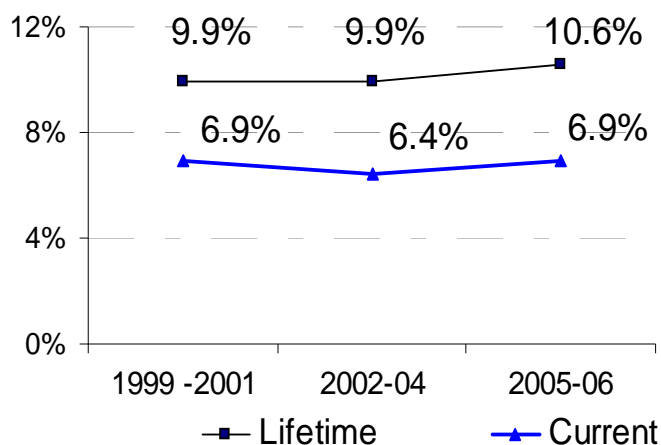
Due to small BRFSS sample size for many subgroups (e.g., race, gender-specific subsamples, etc.), many rates and counts given here are averages of multi-year periods. Multi-year estimates based on larger samples are more stable and have smaller confidence intervals. Smaller confidence intervals allow one to state with greater certainty that the differences found in the estimates reflect real differences in the Iowa population as a whole.

Even when six years of data are aggregated, BRFSS sample sizes may be very small for specific racial and ethnic minorities--resulting in estimates with wide confidence intervals. As a result, racial and ethnic minorities are sometimes grouped into the category of All Minorities so that statistically significant differences can be measured more readily.

Counts are sometimes rounded for ease of interpretation (e.g., 144,900 may be rounded to 145,000 and 1,380 may be rounded to 1,400).

## Current and Lifetime Asthma Prevalence Rates Overall

Current and Lifetime Asthma Prevalence  
Average Annualized Rate  
per 100 Iowa Adults  
1999-2001, 2002-2004, 2005-2006



Iowa adult (18 years and older) current and lifetime asthma prevalence rates show no clear trend up or down between 1999 and 2006.

- Current asthma (sometimes referred to as still-has asthma) and lifetime asthma (sometimes referred to as ever-had asthma) are two terms by which asthma prevalence is most commonly characterized. On average each year between 1999 and 2006, an estimated 148,000 Iowa adults *currently had* asthma while an estimated 223,000 *had ever had* asthma.

(Three and two-year averages were used here to smooth differences in year-to-year rates that are an artifact of small sample size rather than variability in the real rate across time.)

Current and Lifetime Asthma Prevalence  
Average Annualized Rates and Counts  
per 100 Iowa Adults  
1999-2001, 2002-2004, 2005-2006, 1999-2006

	1999-2001	2002-04	2005-06	1999-2006
<b>Count of Cases</b>				
<b>Lifetime</b>	211,600	221,100	241,400	222,600
<b>Current</b>	147,000	143,200	155,600	147,700
<b>Ratio of Current to Lifetime</b>	.69	.65	.64	.66
<b>Prevalence Rate /100 Adults</b>				
<b>Lifetime</b>	9.9	9.9	10.6	10.1
<b>Current</b>	6.9	6.4	6.9	6.7

Source: Iowa BRFSS, IDPH

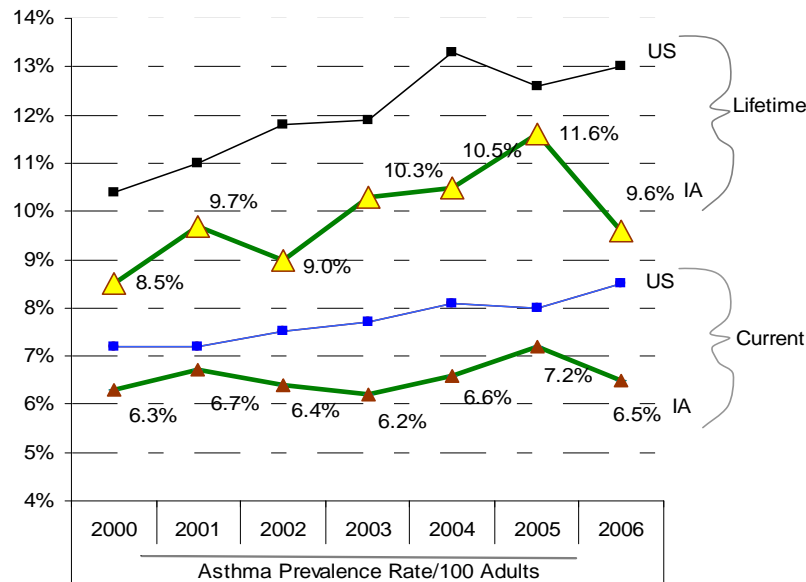
The ratio of Iowa adult current to lifetime asthma prevalence rate shows no clear trend of increase or decrease.

- The ratio of current to lifetime asthma prevalence rates is used as an indication of how well asthma is being controlled and treated. Between 1999-2001 and 2005-06, this rate ratio for Iowa adults varied from .64 to .69. Data do not show a strong trend up or down for this ratio.

Between 2000 and 2006, Iowa's ratios of current asthma to lifetime asthma prevalence are comparable to the national ratios which varied between .61 and .69.

## Current and Lifetime Asthma Prevalence Rates, Iowa vs. the U.S.

Annual Prevalence Rate per 100 Iowa Adults, Current and Lifetime Asthma, Iowa National Median Current and Lifetime median asthma prevalence rate, 2000-2006



Iowa adult current and lifetime asthma prevalence rates are consistently below national rates.

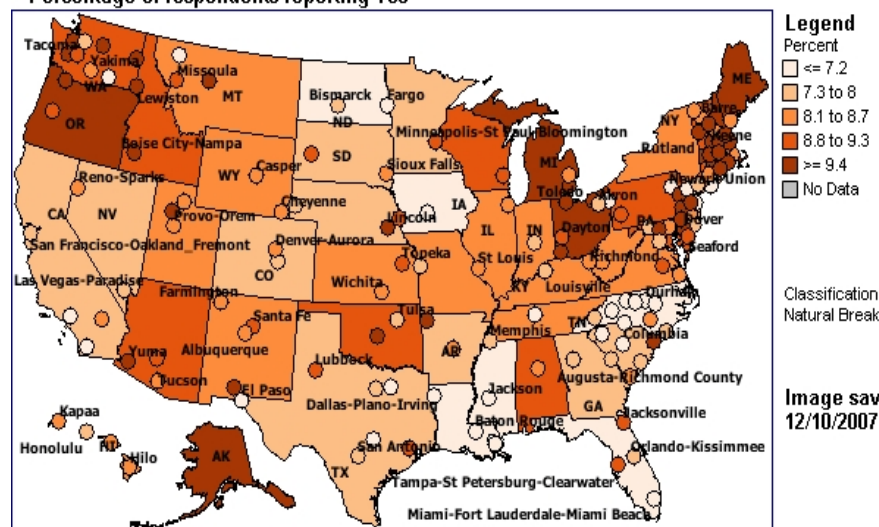
- For all seven years 2000-2006, both Iowa's current and lifetime asthma prevalence rates were below comparable same-year national rates.
- In comparing Iowa to other states, for all years 1999-2006, for both current and lifetime asthma, prevalence rates for Iowa adults are in the bottom third of the distribution of all states' comparable same-year rates.

(State and national asthma prevalence estimates are available on the CDC BRFSS program Web Site: <http://www.cdc.gov/brfss>. National BRFSS-based adult asthma prevalence estimates are not available before 2000 due to the small number of states collecting

### BRFSS Maps Year - 2006

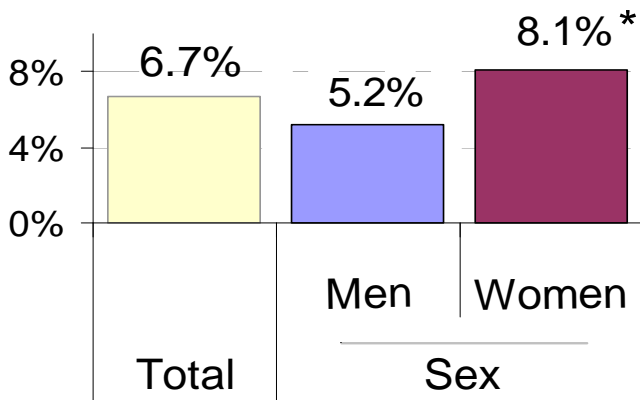
Adults who have been told they currently have asthma

Percentage of respondents reporting Yes



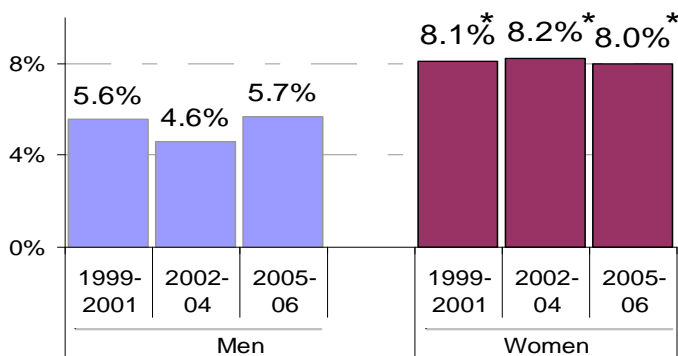
## Rates by Gender

By Gender, Average Annualized Current Asthma Prevalence Rate per 100 Adults, Iowa, 1999-2006



\* Rate for women statistically higher than that for men

By Gender, Average Annualized Current Asthma Prevalence Rate per 100 Adults, Iowa 1999-2001, 2002-04, 2005-06



\* Rate for women statistically higher than that for men for each period.

Iowa women overall are 1.6 times more likely to report having asthma than are men.

- The ratio of the average current asthma prevalence rate for Iowa women to the current asthma prevalence rate for Iowa men (known as relative risk) was 1.6 (8.1 cases/100 women vs. 5.2 cases/100 men) over the 1999-2006 period, meaning women were 1.6 times more likely to have asthma.

Nationwide BRFSS data of the annual ratio of current asthma prevalence rates for women to men varied between 1.6 and 1.7 during the years 2001-2004. (National gender-specific BRFSS-based prevalence rates were last published on the CDC asthma program Web Site for 2004.)

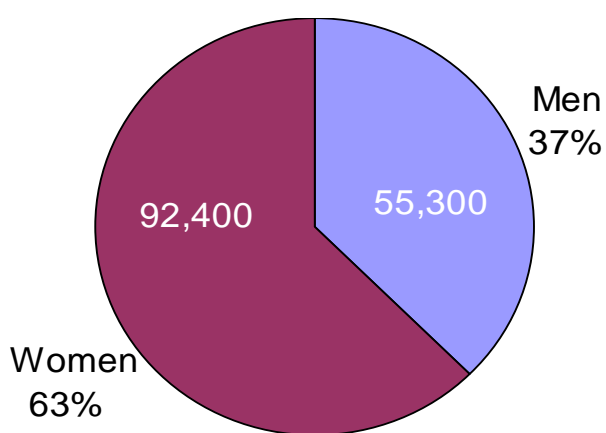
- Along with relative risk, another way of measuring health disparities is the calculation of percent difference. A percent difference is the percent that the difference between two rates is of one of the rates. (e.g., The rate of 8.1/100 women - the rate 5.2/100 men)/rate of 5.2/100 men \* 100 = .56 \* 100 = 56%. That is, the difference in rates between Iowa men and women finds the rate for women about 56% above the rate for men. The difference in rates between women and men was statistically significant.

- Not only for the overall eight-year period 1999-2006 was the current asthma prevalence rate 60 percent higher for women than men, but for all three periods shown, 1999-2001, 2002-04, and 2005-06, the rate of current asthma prevalence was significantly higher for Iowa women than for Iowa men.

Similar rate differences between women and men were seen across all states.

## Counts by Gender

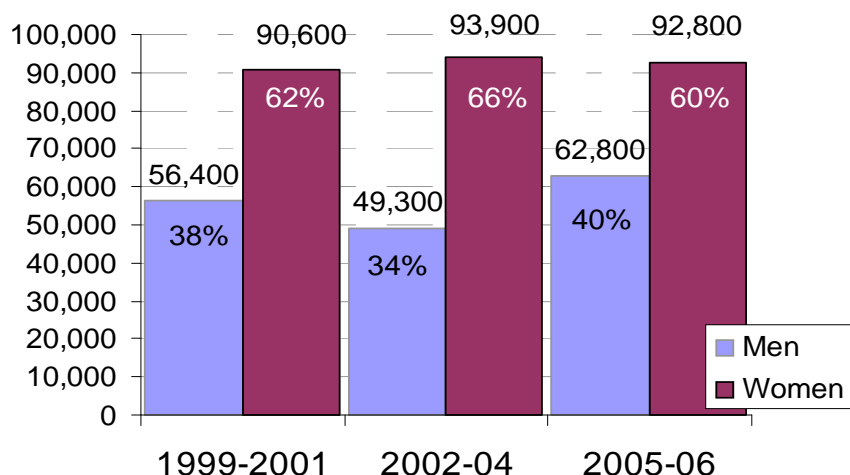
By Gender, Average Annualized Count of Current Asthma Cases, Iowa Adults, 1999-2006



Overall prevalence *count* of Iowa adult cases is 1.8 times greater for women than for men.

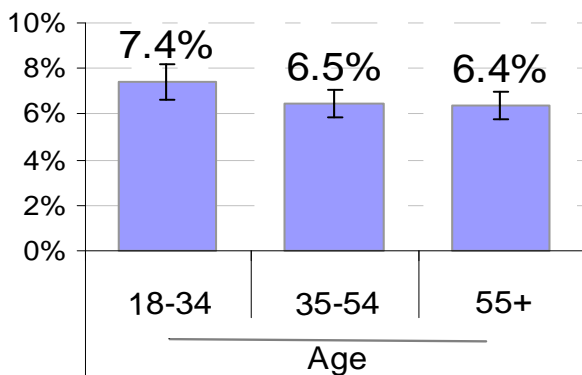
- Of the almost 148,000 average annual *count of current asthma cases* prevalent in adults in Iowa between 1999-2006, 92,000 (63%) occurred in women and 55,000 (37%) in men. The ratio of case counts in women vs. men was  $92,000/53,000=1.74$ .
- As for prevalence rates, counts of current asthma cases for women exceeded that of men overall and for all strata of age, race, income, and educational attainment and for each of the periods 1999-2001, 2002-04, 2005-06.

By Gender, Average Annualized Count of Current Asthma Cases, Iowa Adults 1999-2001, 2002-2004, 2005-2006



## Rates by Age and by Gender/Age

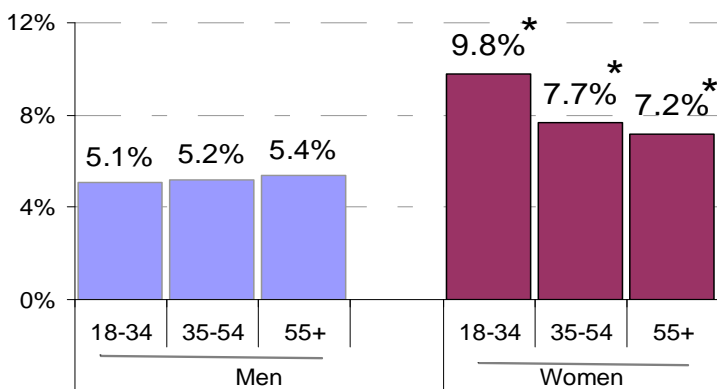
By Age, Average Annualized Current Asthma Prevalence Rate per 100 Adults, Iowa 1999-2006



Overall, differences in adult age-specific asthma prevalence rates are small.

- Overall, differences in age-specific current asthma prevalence rates were small for the 1999-2006 period but rates for the youngest group of adults was slightly higher (7.4%) than for middle-aged (6.5%) and older adults (6.4%).

By Gender & Age, Average Annualized Current Asthma Prevalence Rate per 100 Adults, Iowa 1999-2006



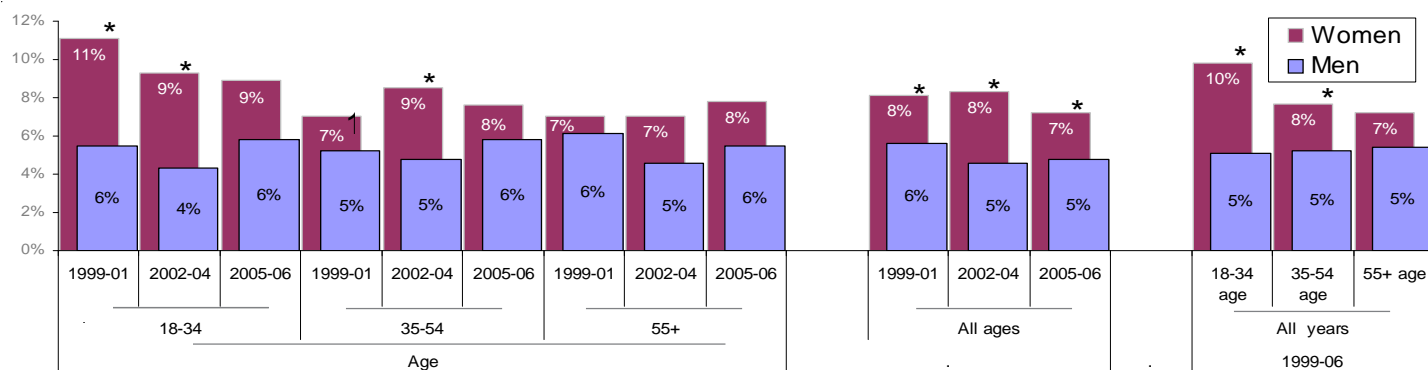
Across all years, all socio-demographic risk factors, women have higher rates than men.

- Higher rates of current asthma in young women (9.8%) accounted for all of the increased risk seen for young adults. Among men, rates differed little between age groups (5.1% to 6.4%). (However, comparisons of age-specific rates by gender and race later in this report uncover statistically significant variability in current asthma prevalence rates between men by race.)

Overall for the period 1999-2006, gender-specific average annual prevalence rates for women were higher than those for men for *not only all* comparable subgroupings of age, but for all subgroupings of race, income and educational attainment. (See later sections in this report.)

\* Rate for women statistically higher than that for men for age group.

By Year, Age and Gender, Average Annualized Current Asthma Prevalence Rate per 100 Iowa Adults  
1999-2001, 2002-04, 2005-06, 1999-2006



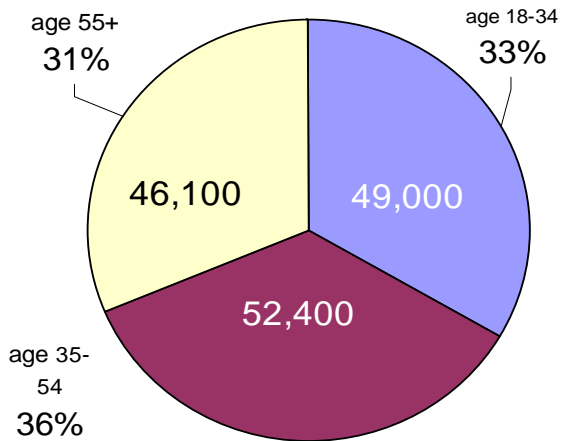
\* Rate for women statistically higher than that for men for that same age group and period.

Gender-specific current asthma prevalence rates found Iowa women of all ages for all years at greater risk of current asthma compared to men.

# Counts by Age and by Gender/Age

By Age, Average Annualized Current Asthma Case Count, All Iowa Adults

All adults, count by age, 1999-2006

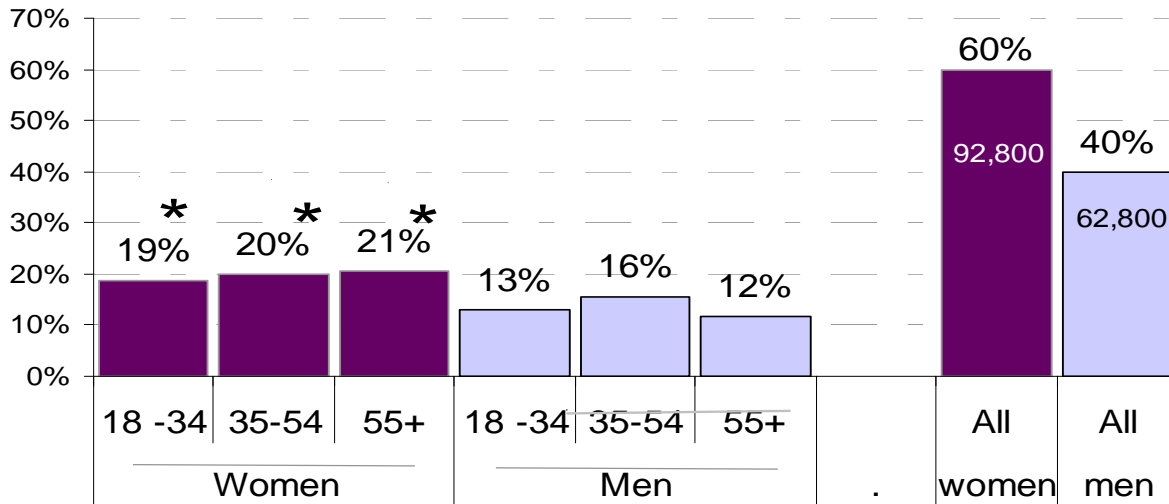


Adult current asthma case counts are relatively evenly distributed across three age groups for the two periods 1999-2006 and 2005-2006.

- As for the overall age-specific current asthma prevalence rates for Iowa adults (with the exception of elevated rates in younger adults) case counts were relatively evenly distributed by age. Of the almost 148,000 asthma cases prevalent in adults in Iowa each year, about one-third occurred in each age group.

However, as for rates, when age-specific case counts were broken down by gender, significant differences between genders became apparent in the count of cases.

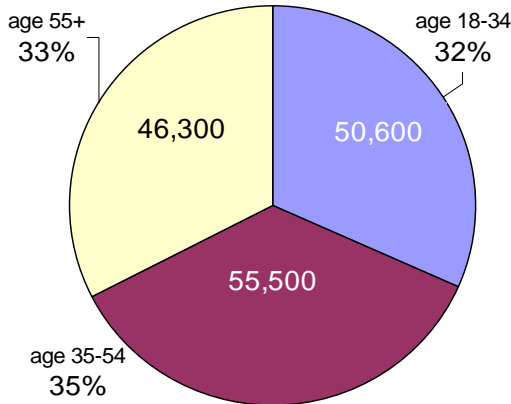
By Age and Gender, Percent Distribution of All Current Asthma Cases, Iowa Adults, 2005-2006



\* Percent for women statistically higher than that for men of the same age group.

By Age and Gender, Average Annualized Current Asthma Case Count, Iowa Adults, 2005-2006

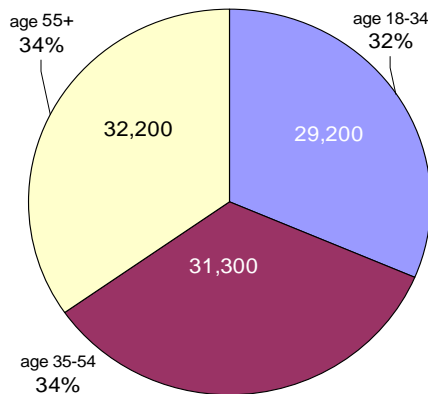
All adults, count by age



Gender-specific case counts show current asthma prevalence cases to be evenly distributed by age *within* the group of all adult women.

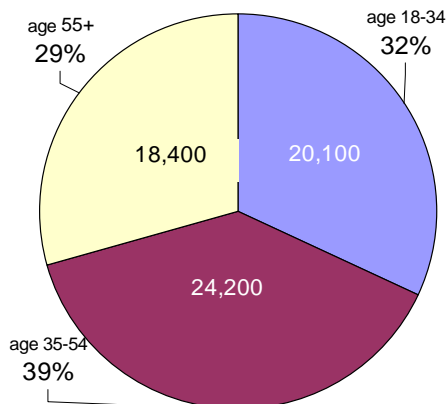
Gender-specific case counts show current asthma prevalence cases to be somewhat less evenly distributed among Iowa men than Iowa women, with middle-aged men accounting for 39% of cases, younger men 29%, and older men for 32% of current asthma cases.

For women, count by age



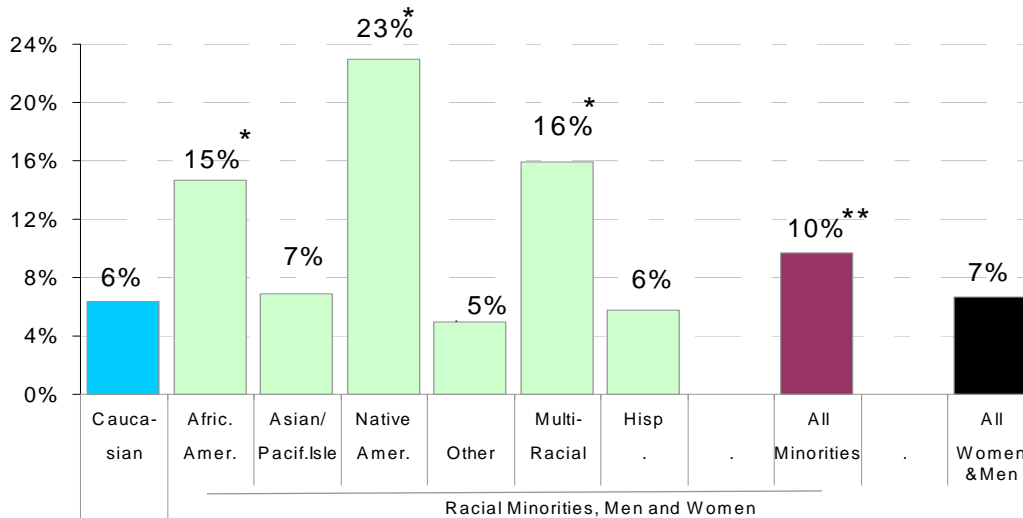
- Even though within-gender comparisons by age show small differences in case counts, especially for women, between-gender comparisons find women to account for 59% of cases among those less than 35 years (29,200 cases in women vs. 20,100 cases in men), 56% of cases among those 35-55 years (31,300 cases in women vs. 24,200 cases in men), and 64% of cases among those more than 55 years of age (32,200 cases in women vs. 18,400 cases in men).
- The average annual case count for young women was 45% higher than that for young men. For middle-aged women the case count was 29% higher than for middle-aged men and for older women (age 55+) the case count was 75% higher than for older men.

For men, count by age



## Rates by Race

By Race, Average Annualized Current Asthma Prevalence Rate per 100 Adults  
Iowa 2001-2006



\* Rate for this race group is statistically higher than rate for Caucasian and Hispanic racial/ethnic groups.

\*\* Rate for All Minorities is statistically higher than rate for Caucasians.

By race, overall current asthma prevalence rates are highest for African-Americans, Native Americans/Alaskans, and Multi-Racial adults.

- The 2001-2006 asthma prevalence rates for African-American, Native American, and Multi-Racial adults were at least double the current asthma prevalence rates for adults of other racial groups (Caucasian, Asian/Pacific Islander and Hispanic). The elevated rates for African-American, Native American and Multi-Racial adults were statistically significantly higher than the rates for Caucasian and Hispanic adults
- The overall rate of current asthma prevalence among All Minorities (Hispanic and all racial minority adults) is higher than the rate for Caucasian (10% vs. 7%, difference statistically significant).

This difference holds true for gender-specific rates as well. All Minority women (12%) vs. Caucasian women (7%); and All Minority men (7%) vs. Caucasian men (5%).

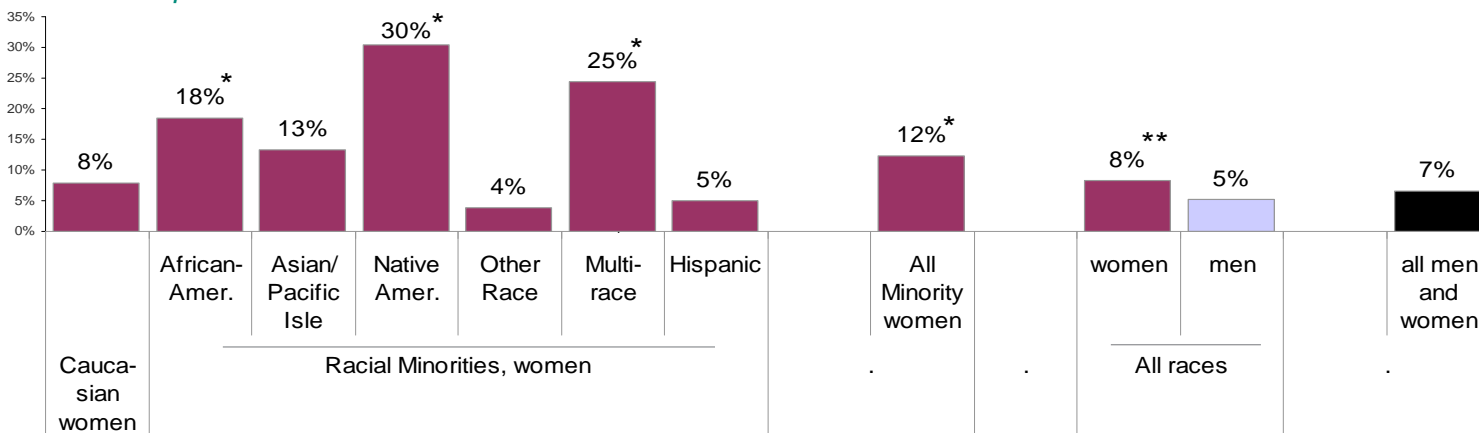
*Race-specific rates* for women were higher than the rates for men for all racial-ethnic groups with the exception of Hispanics. Hispanic men had a rate slightly higher (7%) than that of Hispanic women (5%). This difference was not statistically significant. Due to the small sample size for minorities, the only difference in rates between genders of the same race that was statistically significant was that between White men (5%) and White women (8%).

- Within gender comparisons show that race-specific asthma prevalence rates among both men and women are highest for African-Americans, Native Americans and Multi-Racial adults. Rates for women in these three minority racial-ethnic groups were statistically higher than rates for Caucasian women. No race-specific asthma prevalence rate differences between men reached statistical significance.

## Rates by Gender/Race

By Gender and Race, Average Annualized Current Asthma Prevalence Rate per 100 Adults  
Iowa, 2001-06

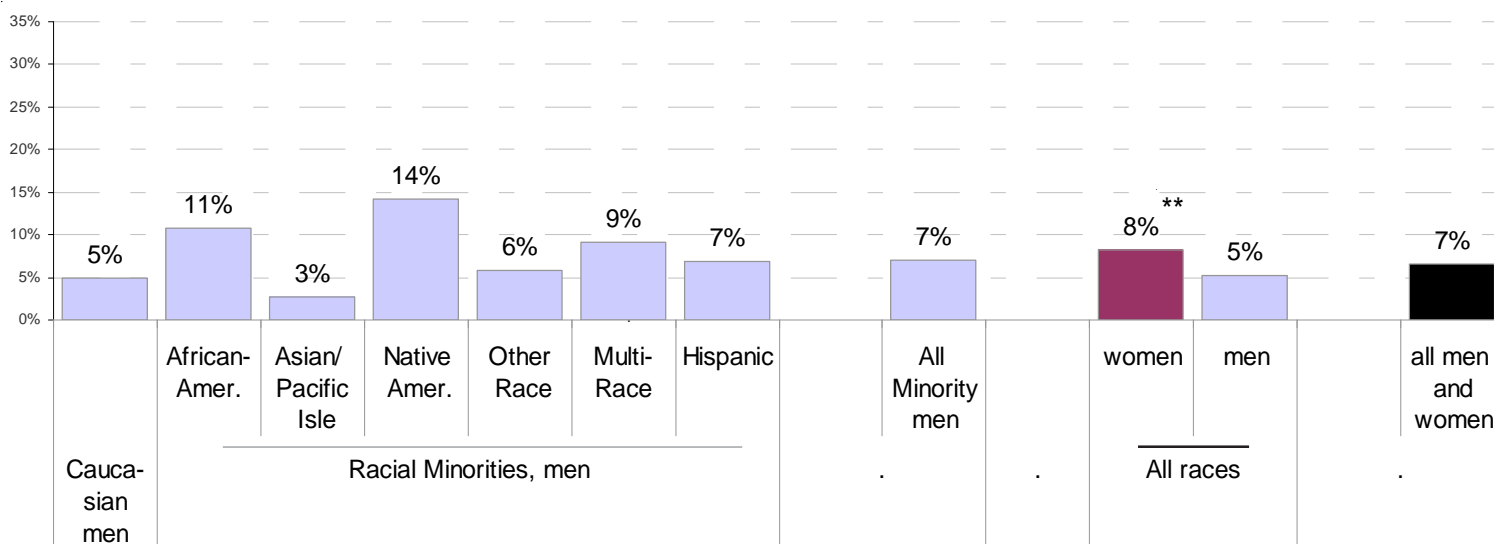
### Women, 2001-2006



\* Rate for this race group of women is statistically higher than rate for Caucasian and Hispanic women.

\*\*Rate for all women is statistically higher than rate for all men.

### Men, 2001-2006

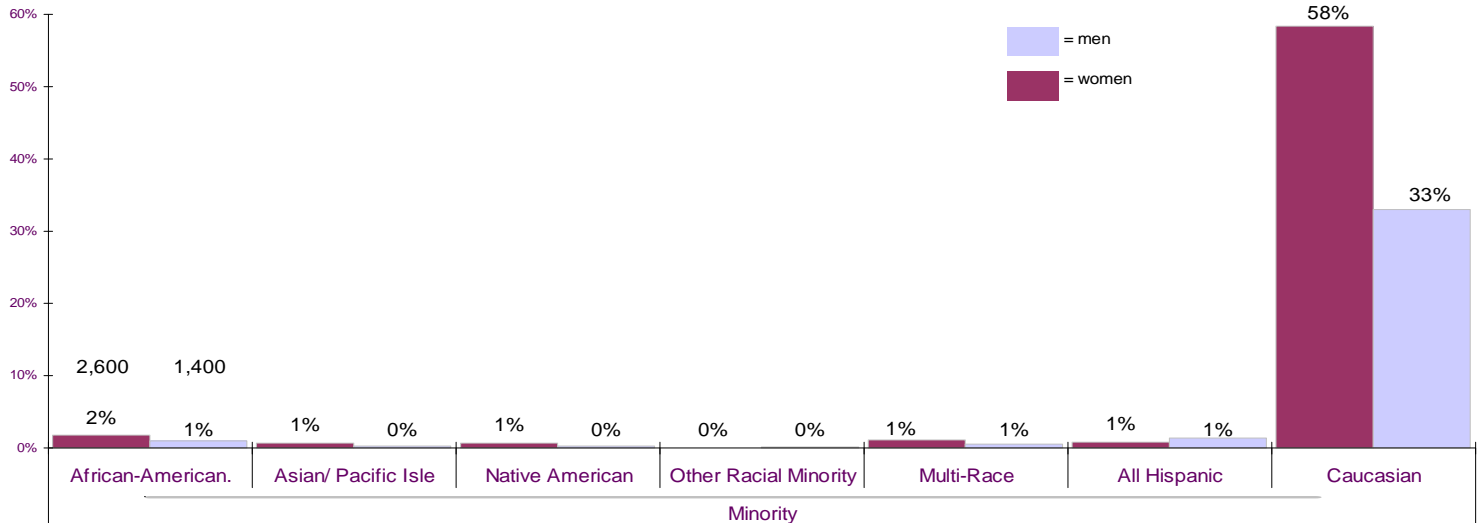


Prevalence rates among women are highest for Native American women, followed by Multi-Racial and African-American women.

Prevalence rates among men are highest for Native Americans, followed by African-American, Multi-Racial and Hispanic men. Differences in asthma prevalence rates between races among men, while generally generally mirrored those differences seen between women of different races.

## Percent of All Cases by Gender/Race

By Race, Average Annualized Percent Distribution of All Adult Asthma Cases by Race and Gender  
Iowa, 2001-2006



### Rates for men are uniform across all age and age/race groups.

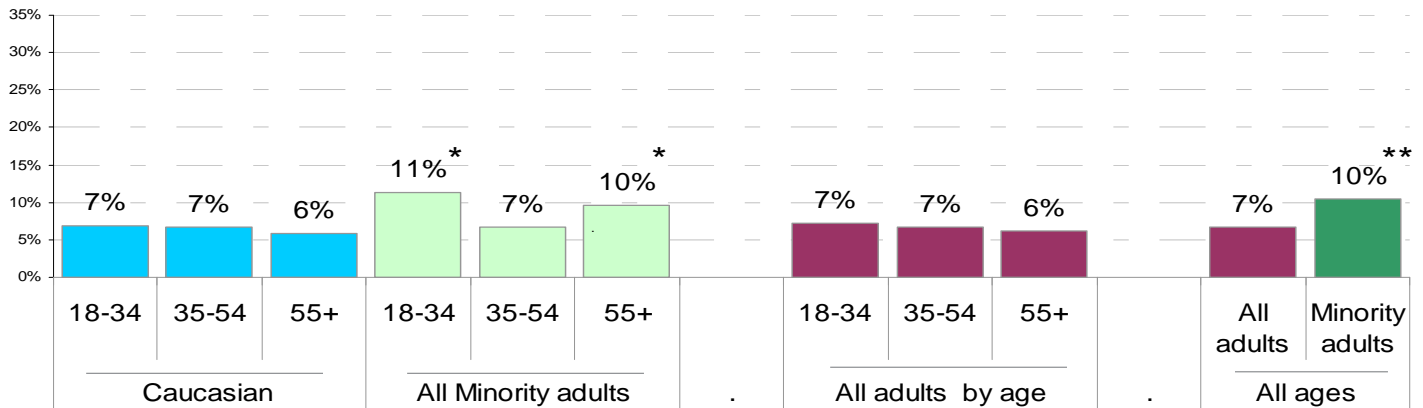
- Men's overall current rates were more stable than women's across age groups, ranging from 4.9/100 for men 18-34 years to 5.3/100 for men older than 55 years.
- Statistically significant rate differences were found between young women and young men (10.1/100 vs. 4.9/100, twice as high for young women) and middle-aged women and men (7.8/1000 vs. 5.0/100, about 1.6 times higher for middle-aged women). The difference in rates between men and women age 55 years and older was not statistically significant.
- Gender-age-race specific asthma prevalence rates were lower for men than for women across all comparable race-age groups.
- Of the almost 145,000 asthma cases prevalent in adults in Iowa each year, about 135,000 occur in Caucasians (93%). About 3,500 occur in African-Americans (2%), 4,000 in the Other Minority category of race (3%), and 2,500 in Hispanics (2%).



# All Racial Minorities by Age

By Race and Age, Average Annualized Current Asthma Prevalence Rate per 100 Adults  
Iowa, 2001-06

## All Adults: All Minorities compared to Caucasians, 2001-2006



\* Rate for this All Minorities age group is statistically higher than rate for same-age Caucasian group.

\*\* Overall rate for All Minorities is statistically higher than overall rate for Caucasians.

Age-specific rates across three age groups showed little variability among Caucasians (range 6% to 7%), while age-specific rates among All Minorities were more variable (range 7% to 11%) and higher than those for Caucasians for all same-age groups. (Rate differences between Caucasian and All Minority same-age subgroups reached statistical significance for two of the age groups: 18-34 years and 55 years and older.)

Age-specific rates for Caucasian women trended downward with age, although differences between age groups were not great (range for Caucasian women: 9% for young women to 7% for older women).

For the group of All Minority women rates were also highest for women 18 - 34 years of age (15%) and 50% greater than that current asthma prevalence rate for All Minority women who were 35-54 years of age (rate of 10%) and 55 years and older (rate of 10%).

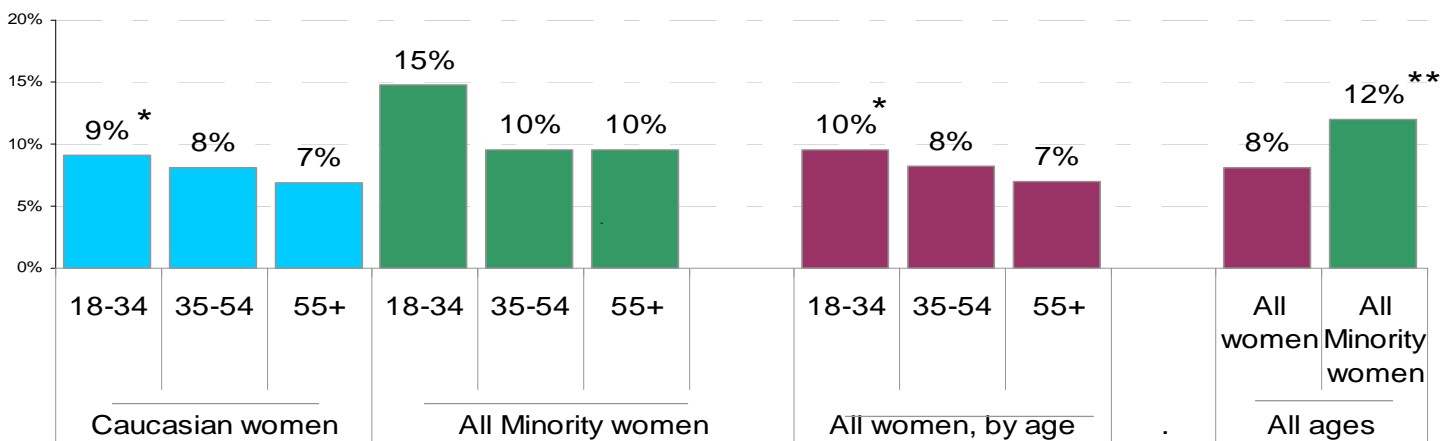
Rates for Caucasian men were uniform across age groups (5%).

Among All Minority men, the middle-aged had the lowest current asthma prevalence rates (4%), while 9% of young All Minority men and 11% of older All Minority men reported having current asthma.

## All Racial Minorities by Gender/Age

By Race, Age and Gender, Average Annualized Current Asthma Prevalence Rate per 100 Adults  
Iowa, 2001-06

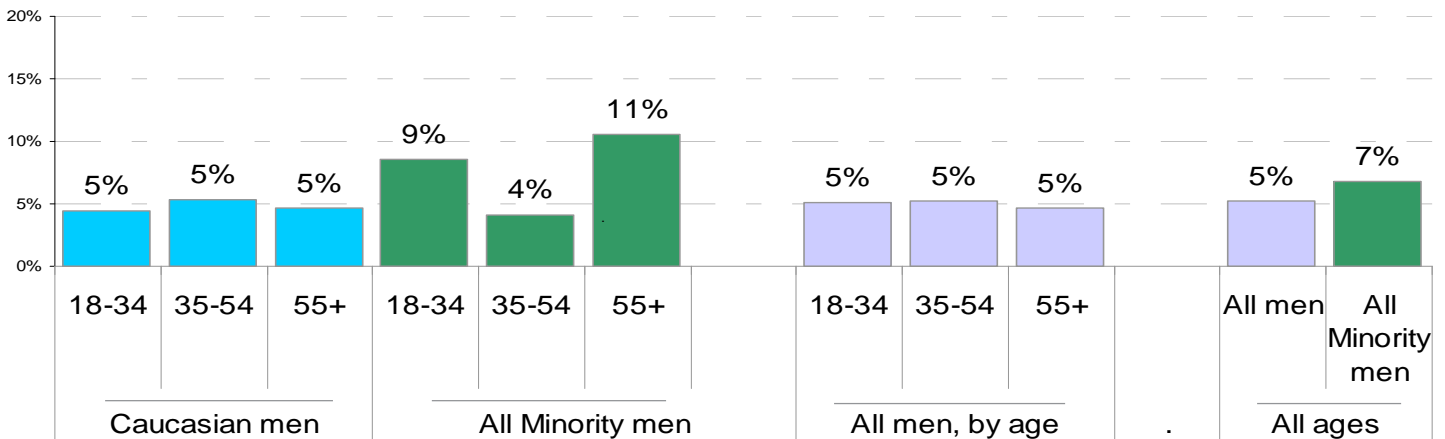
### Women: All Minorities compared to Caucasians, 2001-2006



\* Rate for this age group of women is statistically higher than rate for women 55+ years of age within this race group.

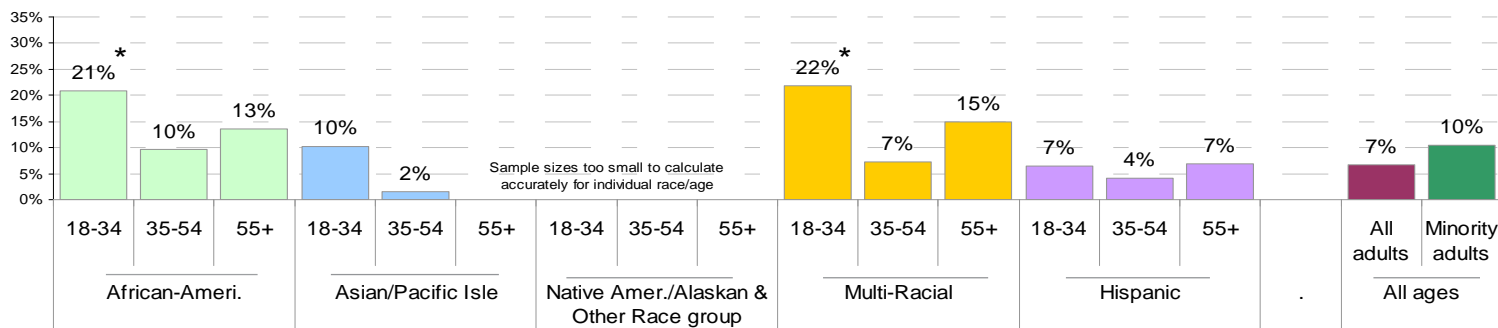
\*\*Rate for All Minority women is statistically higher than rate for all Caucasian women.

### Men: All Minorities compared to Caucasians, 2001-2006



## Rates by Age for Specific Minorities

By Race and Age, Average Annualized Current Asthma Prevalence Rate per 100 Adults  
Iowa, 2001-06



\* Rate for this race/age group is statistically higher than rate for same-age Caucasian group.

\*\* Overall rate for All Minorities is statistically higher than overall rate for Caucasians.

For all three Minority subgroups for whom sample size was large enough (African-Americans, Hispanics, and Multi-Racial adults) for age-specific rates to be reliably computed, middle-aged adults reported current asthma prevalence rates lower than did younger (age 18 - 34) and older (age 55+) adults. Age-specific rates of asthma for Hispanics adults in all age groups were lower than the same age-specific rates for both African-Americans and Multi-Racial adults.

- The rate of current asthma across age groups was fairly flat for Caucasian women (7/100 to 9/100) and Hispanic women (4/100 to 6/100), but showed considerable differences for African-American women (15/100 for the two older age groups to 25/100 for the youngest age group)
- African-American women had the highest age-specific rates of current asthma prevalence when compared with Caucasian and Hispanic women of the same age group.

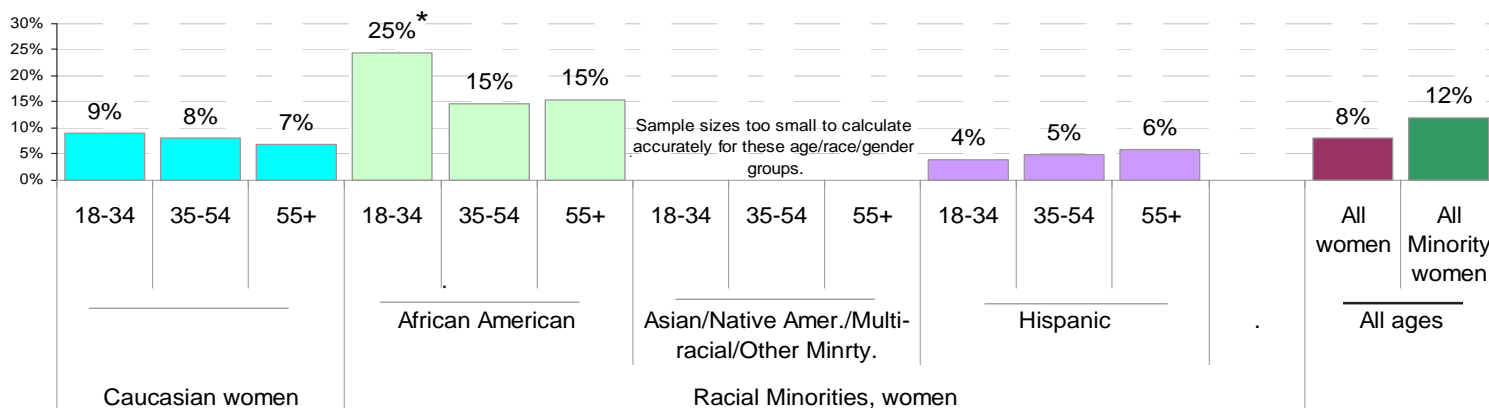
The rate of current asthma among young African-Americans (25%) was almost three times that found among young Caucasian women (9%) and more than six times that of young Hispanic women (4%).

The asthma prevalence rate for Hispanic men of middle age (3%) was lower than than the rates of older (9%) and younger (8%) Hispanic men.

- Rates for Caucasian men were similar across all age groups. Hispanic and Caucasian men were the only racial-ethnic groups with sample sizes large enough to reliably compute age-gender specific rates. Age-specific rates for Hispanic men were found to be lowest among those of middle-age.
- Gender-age-race specific asthma prevalence rates were lower for men than for women across all same race-age groups for Caucasians and African-Americans. For the youngest and older Hispanic men, the rate of current asthma prevalence exceeded the same race-age rate for younger and older Hispanic women.

## Rates by Age/Gender for Specific Minorities

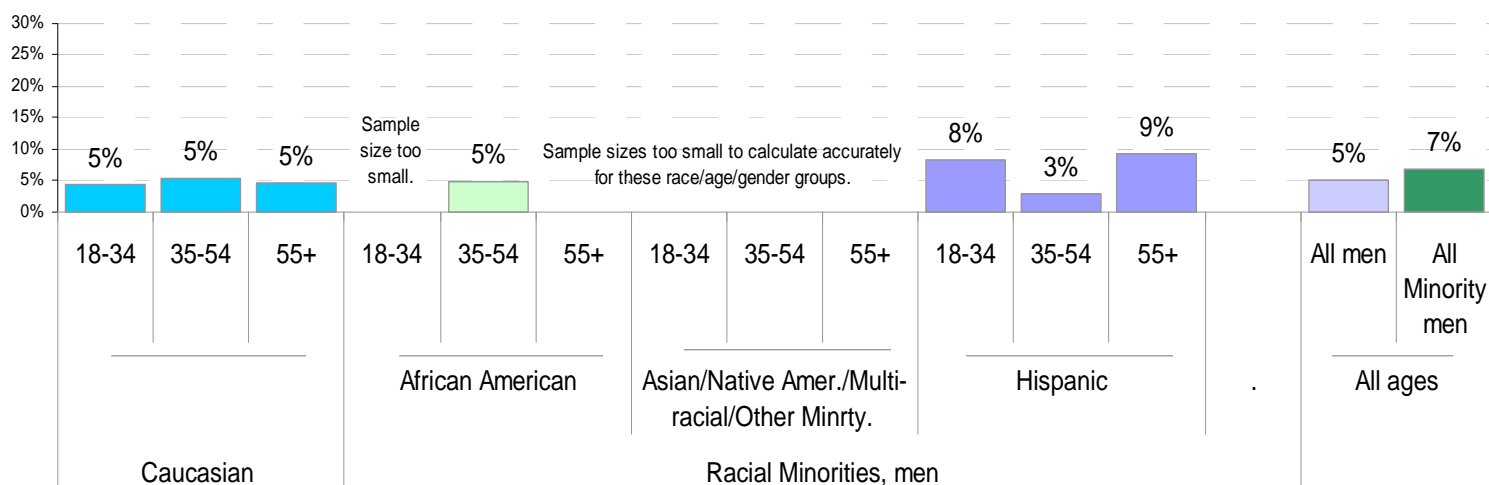
### Women: Specific minority subgroups, 2001-2006



\* Rate for African-American women age 18-34 years is statistically higher than the rates for Caucasian and Hispanic women 18-34 years of age.

\*\* Rate for All Minority women is statistically higher than rate for all Caucasian women.

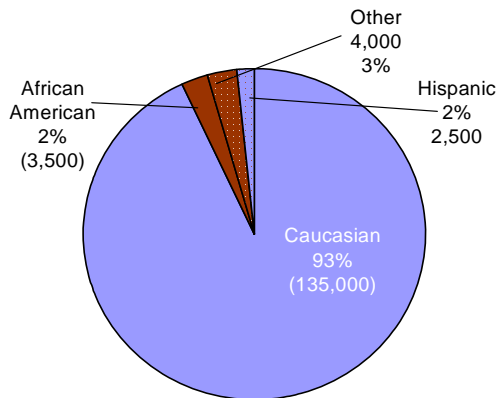
### Men: Specific minority subgroups, 2001-2006



## Counts by Race and Gender/Race

By Race, Average Annual Count of Cases  
Iowa Adults, 1999-2004

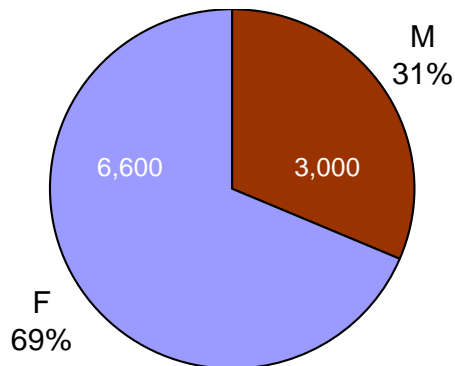
### Overall count by race



Ninety-three percent of Iowa adult asthma cases were among Caucasians.

- Of the almost 145,000 asthma cases prevalent in adults in Iowa each year, about 135,000 occur in Caucasians (93%). About 3,500 occur in African-Americans (2%), 4,000 in the Other Minority category of race (3%), and 2,500 in Hispanics (2%).

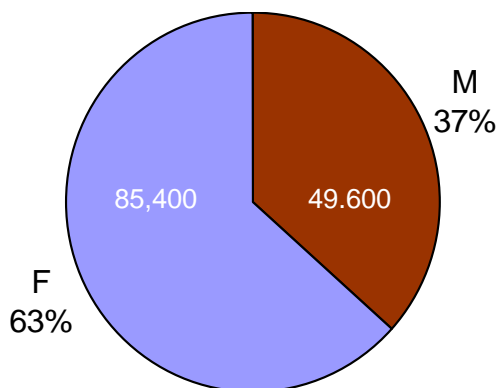
### For All Minorities, count by gender



Among Minorities, women account for almost 70% (n=6,600) of Iowa adult asthma cases.

- Among the category of All Minorities, women account for 69% (n=6,600) and men for 31% (n=3,000) of cases. For all racial subgroups, women account for the majority of cases. (Women account for about 75% of cases in African-Americans (2,600 of 3,500 cases) and 56% of cases in Hispanics (1,400 of 2,500). See tables at end of chapter for additional information on case counts by race and gender.)

### For Caucasians, count by gender

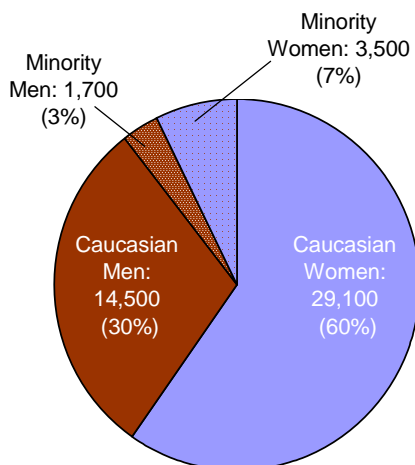


Among Caucasians, women account for about two-thirds (n=85,400) of adult asthma cases.

- Women account for 63% (85,400 of 135,000 cases) and men for 37% (49,600) of all cases among Caucasians. Overall, women account for a slightly smaller proportion, about 60% of all cases (85,000 of 145,000), while men account for about 40% (50,000 of 145,000) of all cases.

## Counts by Age/Gender/Race

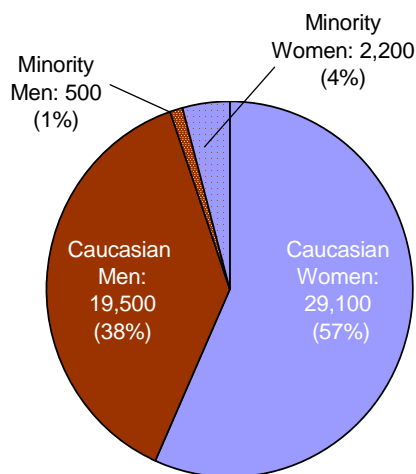
**For 18-34 year-old adults count by gender and race**



For all age groups, *counts* of cases for Minorities are less than for Caucasians.

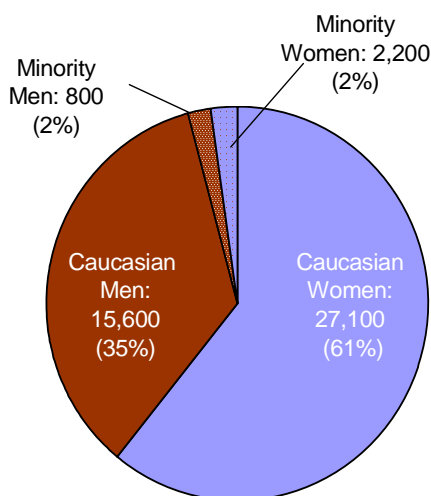
For all race and race/age breakouts, counts of asthma cases for women exceed those for men.

**For 35-54 year-old adults count by gender and race**



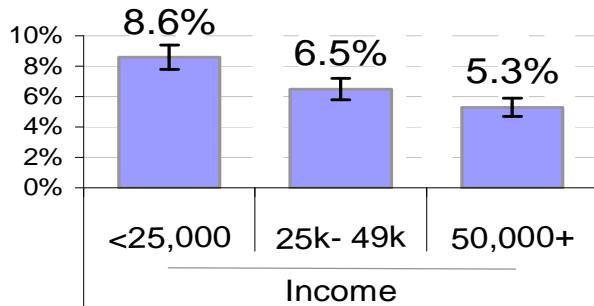
- Gender-specific case counts by age showed women to account for *more than 60% of cases for each age group*: women accounted for 67% of cases among those less than 35 years, 61% of cases among those 35-55 years, and 63% of cases among those more than 55 years of age.
- As for age-specific rates, age-specific asthma counts of current asthma cases were evenly distributed by age overall. Of the almost 145,000 asthma cases prevalent in adults in Iowa each year, about one-third occurred in each age group. However, as for rates, when age-specific case counts were broken down by gender and race, significant differences were apparent.
- The average annual case count for young women was double that of young men (33,000 vs. 16,000); for middle-aged women the case count was 56% higher than middle-aged men (31,000 vs. 20,000). For older women (age 55+) the case count was about 75% higher than that of older men (28,000 vs. 16,000).
- Caucasians accounted for the vast majority of cases in all age-gender specific groups: for the youngest group, Caucasians made up 89% of cases (of both male and female cases). Among all older age groups, Caucasians accounted for more than 95% of all cases in both males and females.

**For 55+ year-old adults count by gender and race**



## Rates by Income and Education

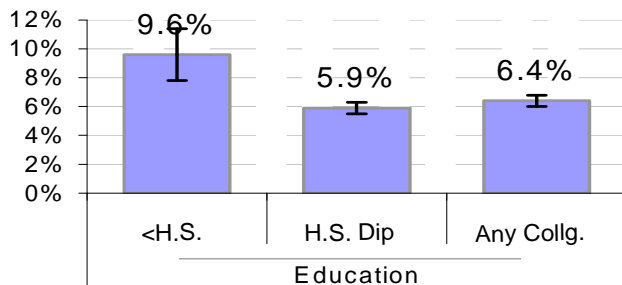
By Income, Average Annualized Current Asthma Prevalence Rate per 100 Adults, Iowa, 1999-2004



The Iowa adult asthma prevalence rate is 1.6 times greater for persons of the lowest income households vs. those of the highest income households.

- Asthma prevalence rates were about 30% higher for adults of low income (<\$25,000) compared to adults of middle income (\$25,000-\$50,000) and 60% higher for low income adults compared to those with household incomes of more than \$50,000.

By Education Level, Average Annualized Current Asthma Prevalence Rate per 100 Adults, Iowa 1999-2004

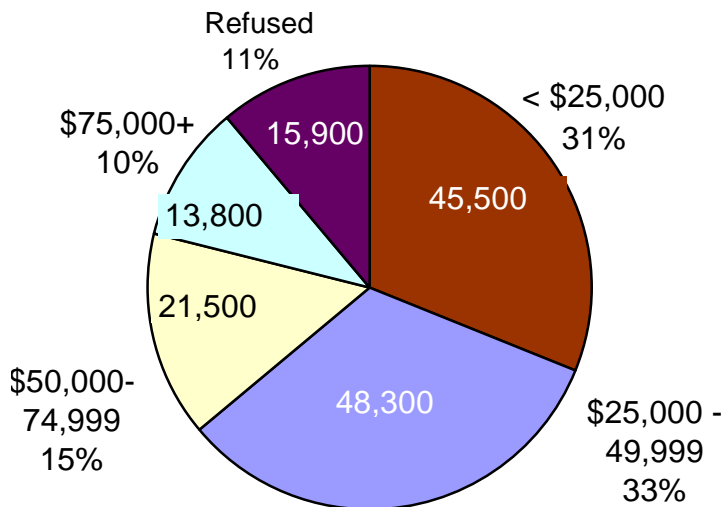


The adult asthma prevalence rate is 1.6 times greater for adults without a high school diploma vs. adults with a diploma and 1.5 times greater for those without a diploma vs. adults with at least some college

- Adults without a high school diploma were more at-risk (9.6 cases/100 adults) of having asthma than were adults with high school diplomas (5.9 cases/100 adults) and adults with at least some college education (6.5 cases/100 adults).
- The risk ratio for those with less than a high school education to those with a high school diploma was 1.6 (9.6 cases /100 vs. 5.9 cases/100 adults) and for those without a high school diploma vs. those with at least some college was 1.5 ( 9.6 cases /100 adults vs. 6.5 cases/100 adults). These differences in rates between those adults without an high school education and those adults with more education were statistically significant.

## Counts by Income and Education

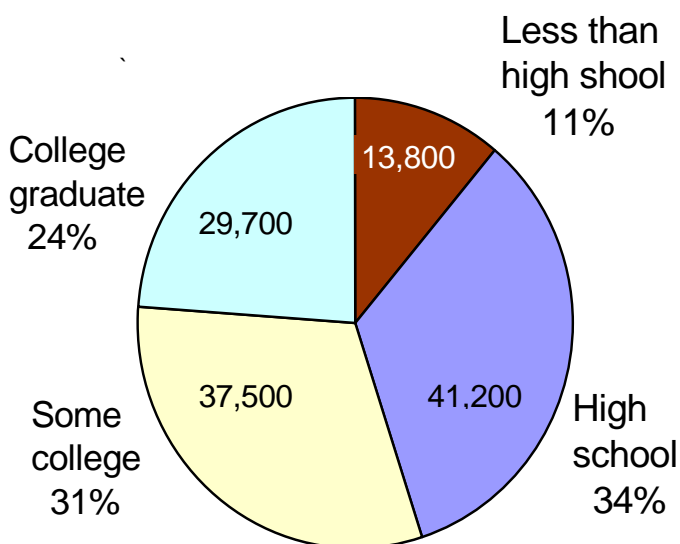
By Income Level, Average Annual Count of Current Asthma Cases, Iowa Adults, 1999-2004



About 65% of asthma cases occur in low income or moderate income households.

- Adults in low income households (<\$25,000) account for about 46,000 of asthma cases (31%); adults in middle income households (\$25,000 – \$74,999) account for about 70,000 cases (48%); and, adults in higher income households (>\$75,000) for about 14,000 (10%) of all prevalent adult asthma cases each year.

By Educational Level, Average Annual Count of Current Asthma Cases, Iowa Adults, 1999-2004

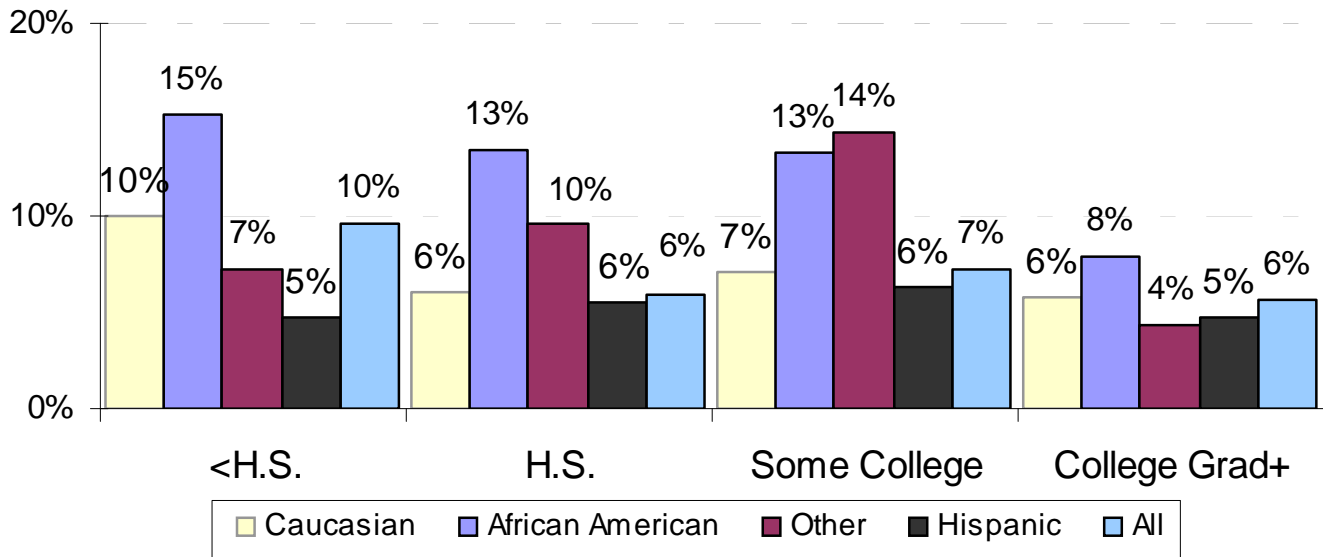


High school dropouts represent are one in ten cases, those with high school diplomas compose about one-third of all cases.

- Adults with less than a high school education account for only about 14,000 (11%) of all asthma cases. Those with a high school diploma account for 41,000 of cases (34%) while those with some college or a college degree comprise about 67,000 (55%) of all prevalent adult asthma cases each year.

## Rates by Income/Race

By Race and Income Level, Average Annualized Asthma Prevalence Rate per 100 Adults  
Iowa, 1999-2004

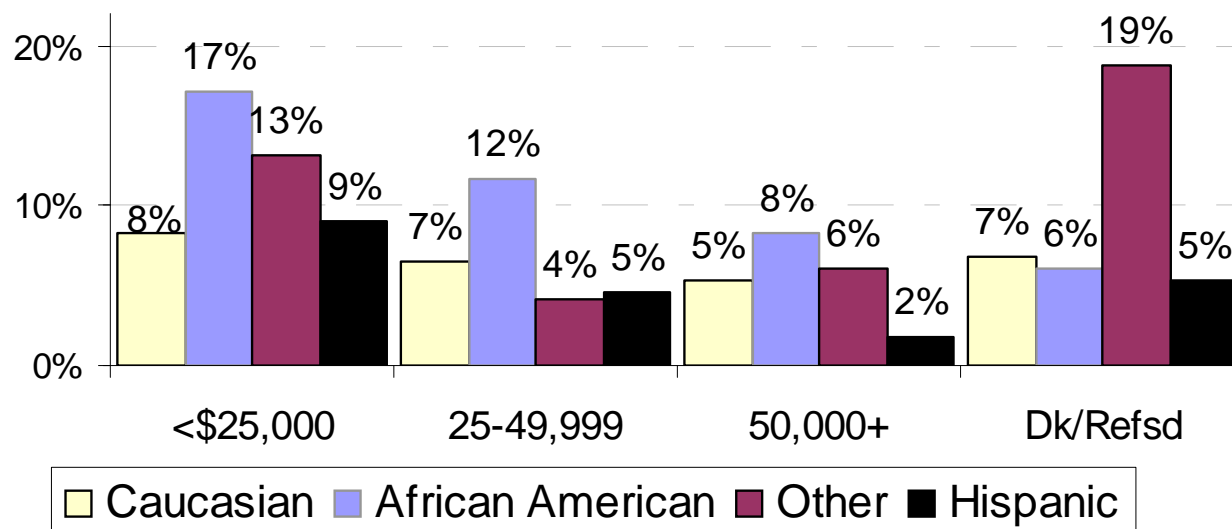


For all income levels, African-Americans have the highest prevalence rates while Hispanics have the lowest prevalence rates.

- By race, asthma prevalence rates declined with increasing household income for African-Americans and Caucasians, but were less consistent for other racial/ethnic minority groups. Rate differences between the highest and lowest income Caucasian groups shown here were statistically significant, while income-specific rate differences within the minority groups shown were not statistically significant. However, when all minority groups were combined (see Table 3), the rate differences between the highest and lowest income groups *did* reach statistical significance.

## Rates by Education/Race

By Race and Educational Level, Average Annualized  
Asthma Prevalence Rate per 100 Adults  
Iowa, 1999-2004

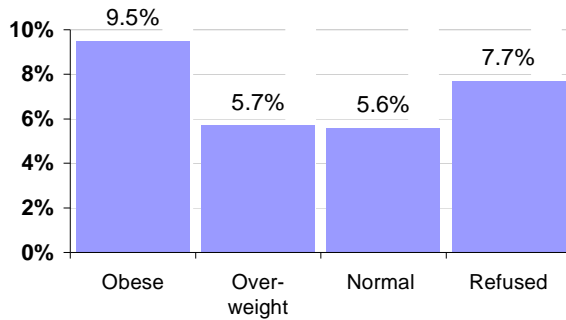


For all races except Hispanic, college graduates have the lowest asthma prevalence rates.

- Differences in rates by race and level of education attainment were less consistent, although, for all racial groups, except Hispanics who show no trending by educational attainment level, rates were lowest among those with a college degree. For Caucasians, but not other racial groups (attributable in part to small sample size), this rate difference was statistically significant.

## Rates and Counts by Exercise and Weight Status

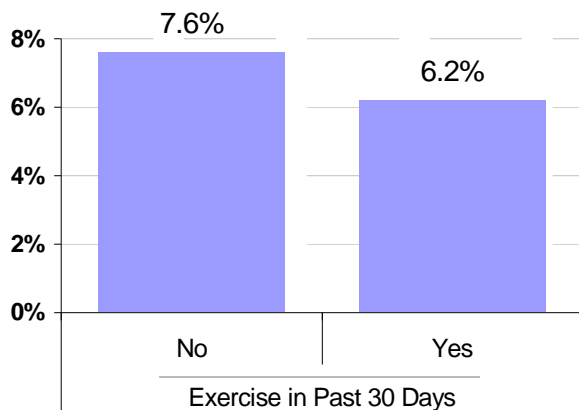
By Weight Status, Average Annualized Rate of Current Asthma Prevalence per 100 Adults, Iowa 1999-2004



Adults	Obese	Overweight	Normal Wt	Refused	All Adults
# w/asthma	51,300	49,600	38,300	5,600	144,900
# all adults	540,000	869,100	686,400	72,000	2,166,500
% w/asthma	9.5%	5.7%	5.6%	7.7%	6.7%
% of all adult asthma cases	37%*	36%*	27%*	3%	100%

\*Denominator excludes those who refused to give weight.

By Leisure Exercise in Past 30 Days, Average Annualized Rate of Current Asthma Prevalence per 100 Adults, Iowa, 2000-2004



Adults	No Leisure Exercise	Yes Leisure Exercise	All Adults
# w/asthma	39,400	102,600	142,000
# all adults	519,100	1,666,100	2,184,700
% w/asthma	7.6%	6.2%	6.5%
% of all adult asthma cases	28%	72%	100%

The obese were 70% more likely than those of normal weight or overweight to have asthma.

- Adults who were obese and had asthma (n=51,300) were 70 percent more likely than adults of normal weight or overweight to report having asthma. The differences in rates between the obese and adults of normal weight reached statistical significance.
- Of adults who had current asthma, 37 percent were obese and 36 percent were overweight during the 1999-2004 period. Of the larger Iowa adult population, only about 23 percent were obese while 38 percent were overweight. Twenty-seven percent of asthmatics were of normal weight while about 40 percent of the larger Iowa adult population was of normal weight during this time.

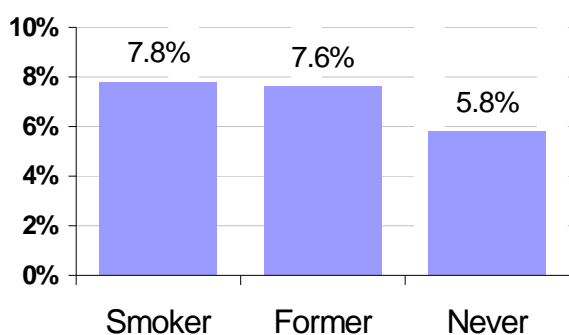
(Obesity is defined as having a body mass index (BMI = (weight in kilograms) / (height in meters squared)) equal to or greater than 30. Normal weight is defined as having a BMI of between 18.5 and 24.9 and overweight as having a BMI of 25 to 29.9)

Asthma prevalence rates are higher among adults who are not exercising for leisure than are among adults who do exercise for leisure.

- Iowa adults who had not exercised for leisure in the past 30 days were about 20 percent more likely to report having asthma than were Iowa adults who had exercised for leisure-although this difference was not statistically significant.
- More than 70 percent of adults with asthma reported engaging in leisure exercise during the past 30 days, a proportion lower than the 79 percent of all Iowa adults who had exercised for leisure in the past 30 days.

## Rates and Counts by Cigarette Smoking Status

By Cigarette Smoking Status, Average Annualized Rate of Current Asthma Prevalence per 100 Adults, Iowa, 1999-2004

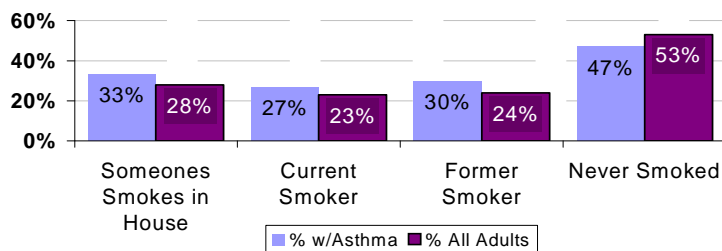


Adults	Current	Former	Never	Refused	All Adults
# w/asthma	37,600	38,900	68,200	100	144,900
# all adults	484,800	510,700	1,167,900	3,100	2,166,500
% w/asthma	7.6%	7.6%	5.8%	3.4%	6.7%
<hr/>					
% of all adult asthma cases	26%	27%	47%	<1%	100%

Cigarette smokers and former smokers are at greater risk than never smokers of having asthma.

- Both adults who were current cigarette smokers and adults who were former smokers were more likely to have asthma than were adults who had never smoked. The differences in asthma prevalence rates between current and never smokers and between former and never smokers were statistically significant.
- Among adults with asthma, 26% (n=37,600) were current and 27% (n=38,900) were former smokers. Among Iowa adults at-large, 22% were current and 24% were former smokers.

Of Iowa Adult Population with Current Asthma and of Total Iowa Adult Population Percent who Smokes or Has Someone Smoking in Home, Average Annualized Percent, Iowa, 1999

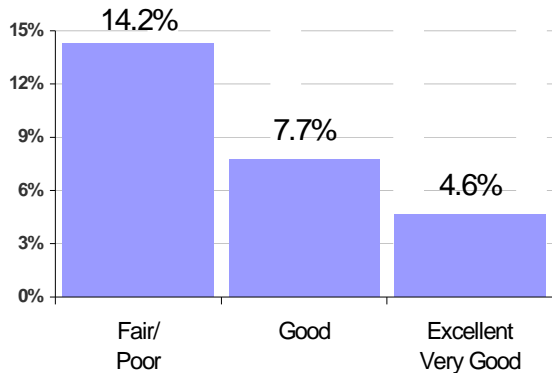


Adult current and former smokers are 30 percent more likely to have asthma than are adults who never smoked.

- Both adults who were current cigarette smokers and adults who were former smokers were more likely to have asthma than those adults who had never smoked: asthma prevalence rates were 7.8%, 7.6% and 5.8% , respectively. Asthma prevalence rate differences between current and never smokers and between former and never smokers were statistically significant.
- Among adults with asthma, 26% (n=37,600) were current and 27% (n=38,900) were former smokers. Among Iowa adults at large, 22% currently 24% formerly smoked.

## Rates and Counts by Overall Health and Health Insurance Status

By Health Status, Average Annualized Rate of Current Asthma Prevalence per 100 Adults, Iowa, 1999-2004



Adults	Fair/Poor	Good	Excellent/Very Good	Refused	All Adults
# w/asthma	36,000	50,300	58,000	500	144,900
# all adults	253,200	652,000	1,257,600	3,600	2,166,500
% w/asthma	14.2%	7.7%	4.6%	5.6%	6.7%
% of all adult asthma cases	25%	35%	40%	<1%	100%

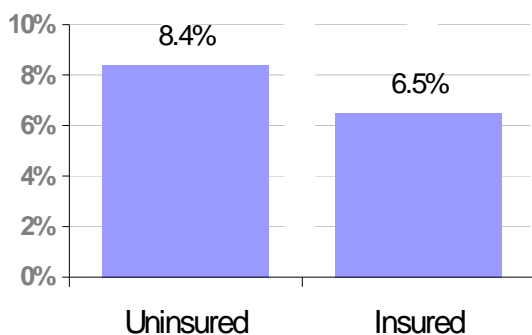
Adults with health that is fair or poor are more than three times as likely to have asthma as those with excellent or very good health.

- Both adults who rated their health as fair or poor and those who rated their health as good were substantially more likely to report having asthma than were adults who reported their health as excellent or very good.

Those who rated their health as fair or poor were 3.1 times more likely to have asthma as were those who rated their health as excellent or very good (risk ratio of 14.2 cases/100 adults vs. 4.6 cases/100 adults). Those who rated their health as good were 1.6 times more likely to have asthma as those who rated their health as very good or excellent to have asthma (risk ratio of 7.7 cases/100 adults/4.6 cases per 100 adults).

- Those with poor fair or poor health were 1.8 times as likely to have asthma as were those with good health (risk ratio of 14.2 cases/100 adults/7.7 cases per 100 adults).

By Health Insurance Status, Average Annualized Rate of Current Asthma Prevalence per 100 Adults, Iowa, 1999-2004

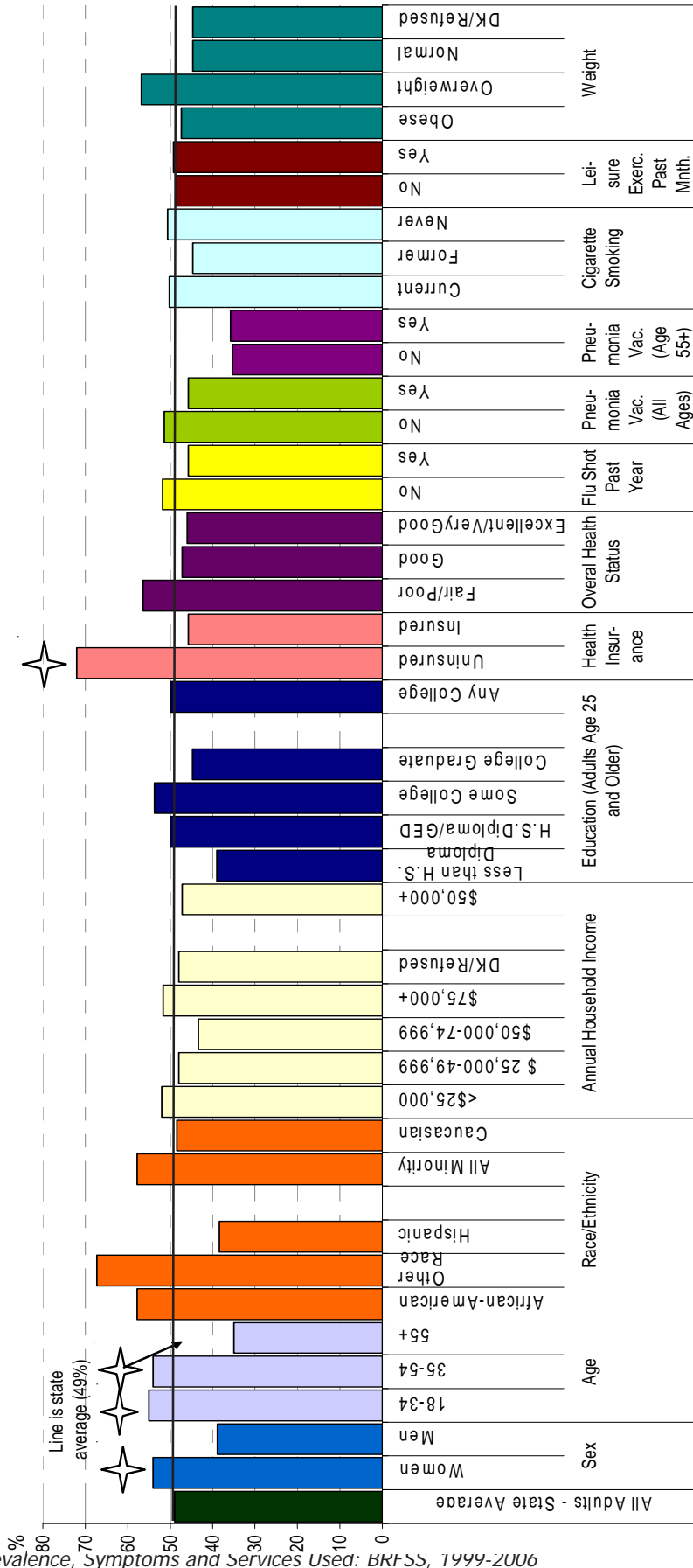


Adults	Uninsured	Insured	Refused	All Adults
# w/asthma	17,200	127,300	400	144,900
# all adults	205,000	1,955,400	6,100	2,166,500
% w/asthma	8.4%	6.5%	6.6%	6.7%
% of all adult asthma cases	12%	88%	<1%	100%

Uninsured adults are 30 percent more likely to have asthma than are the insured.

- Adults who were uninsured had a 30 percent greater risk of asthma than did adults with insurance (risk ratio: 8.4 cases/100 uninsured/6.5 cases/100 insured adults).
- The percent difference between rates of asthma prevalence among those who were uninsured and insured was 29 percent (8.4 cases/100 adults - 6.5 cases/100 adults) / 6.5 cases/100 adults \* 100. This difference in rates reached statistical significance.

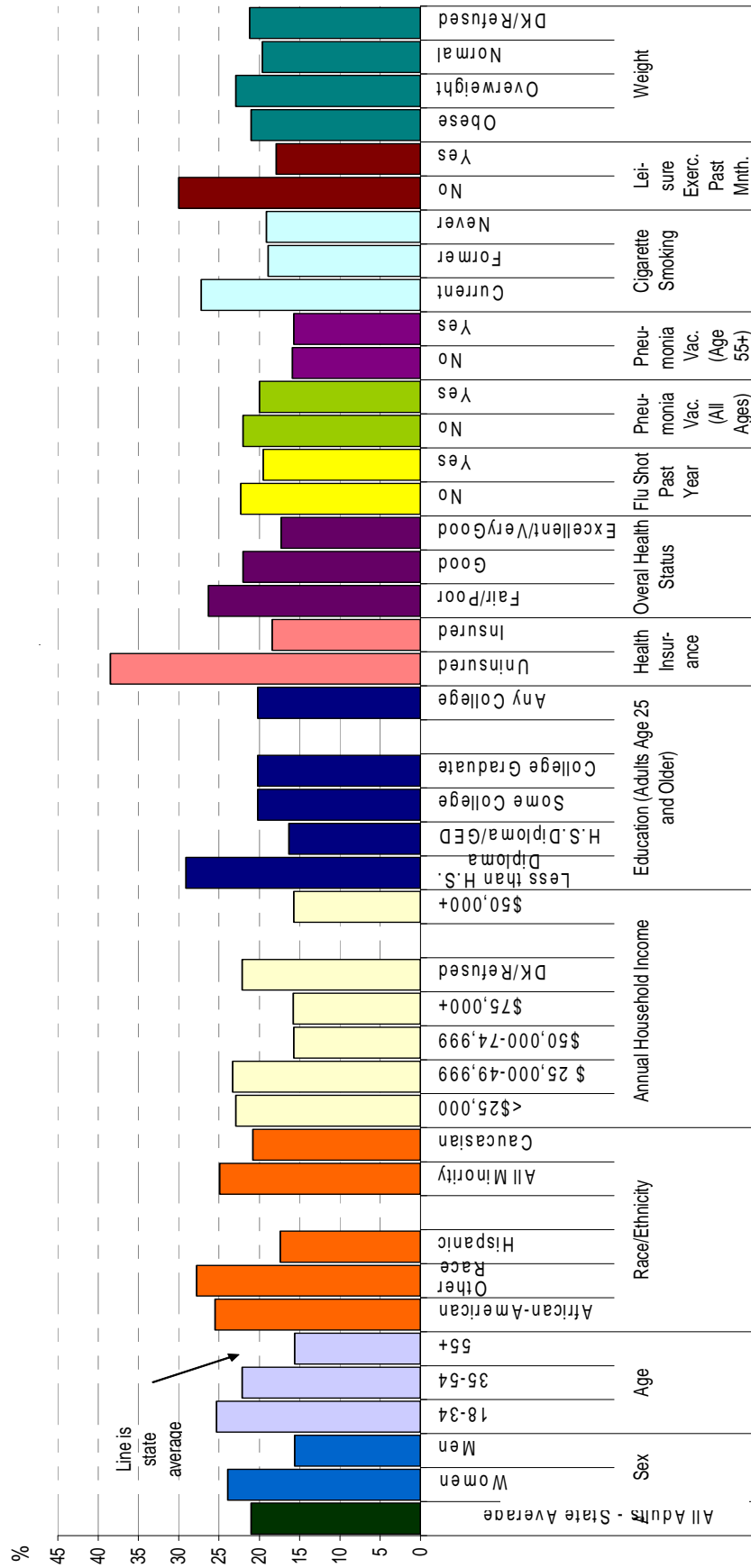
Percent of Iowa Adults with Current Asthma who have Experienced an Asthma Attack in the Past 12 Months by Socio-Demographic Risk Factor, BRFSS, 2001-2004,



All Adults	49
Women	54
Men	39
18-34	55
35-54	54
55+	35
African-Amer.	58
Other Race	67
Hispanic	38
All Minority	58
Caucasian	48
<\$25,000	52
\$25,000-49,999	48
\$50,000-74,999	43
\$75,000+	52
DK/Refused	48
\$50,000+	47
< H.S./GED	39
HS Dipl./GED	50
Some College	54
College Grad.	45
Any College	50
Uninsured	72
Insured	46
Fair/Poor	56
Good	47
Excellent/V. Good	46
No	52
Yes	46
No	51
Yes	46
No	35
Yes	36
Current	50
Former	45
Never	51
No	49
Yes	49
Obese	47
Overweight	57
Normal	45
DK/Refused	45

Percent of Adults with Asthma who have had an Asthma Attack (highlighted/starred) = statistically elevated compared to others in same subcategory

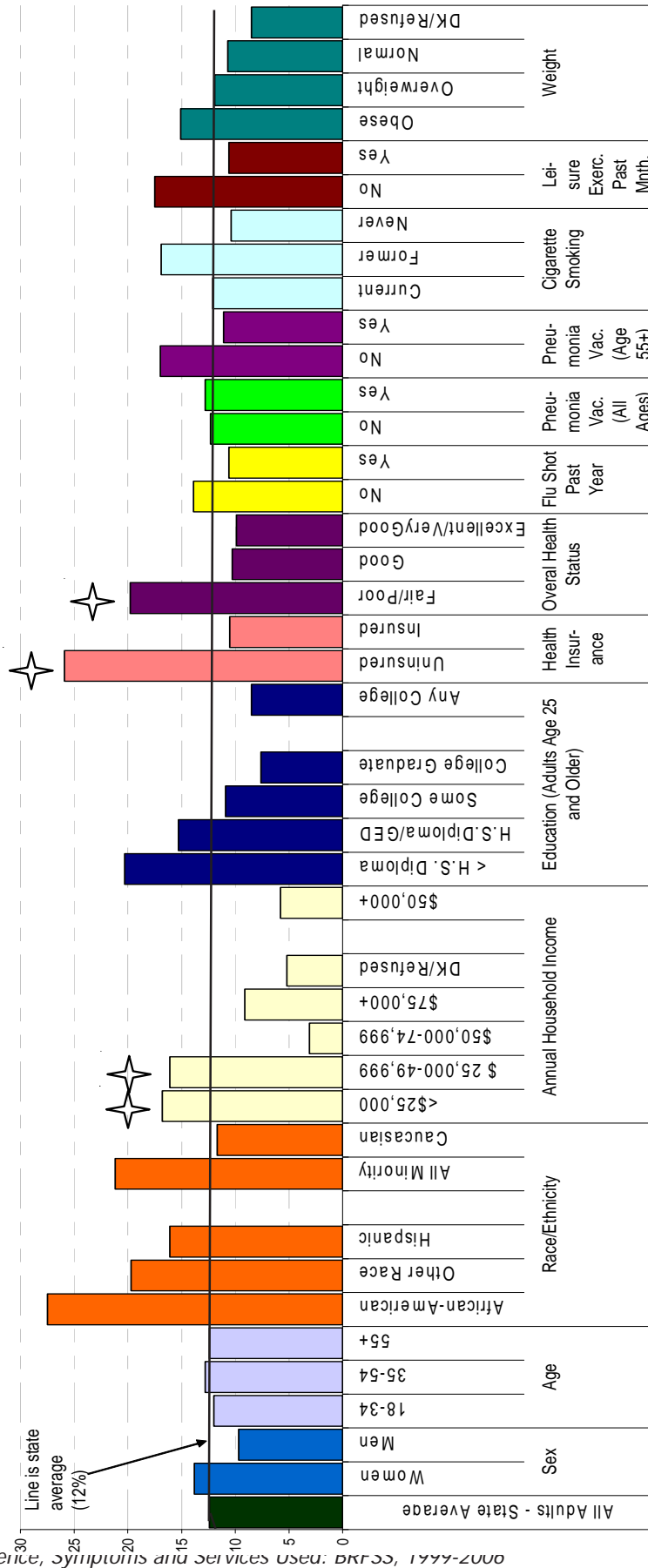
# Average Annualized Percent of Iowa Adults with Current Asthma who Have Experienced Any Activity Limitations in the Past 12 Months Due to their Asthma, by Risk Factor, BRFSS, 2001-2004



Year	21	24	16	26	28	17	25	21	23	23	16	16	20	20	20	22	22	20	20	22	22	22	20	20	20	21
All Adults	21	24	16	26	28	17	25	21	23	23	16	16	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Women	24	16	16	26	28	17	25	21	23	23	16	16	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Men	21	24	16	26	28	17	25	21	23	23	16	16	20	20	20	22	22	20	20	22	22	20	20	20	21	21
African-Amer.	26	28	17	25	21	23	23	16	16	20	20	22	22	20	20	22	22	20	20	22	22	20	20	20	21	21
Other Race	28	17	25	21	23	23	16	16	20	20	22	22	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Hispanic	17	25	21	23	23	16	16	20	20	20	22	22	20	20	20	22	22	20	20	22	22	20	20	20	21	21
All Minority	25	21	23	23	16	16	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Caucasian	21	23	23	16	16	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
<\$25,000	23	23	16	16	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
\$25,000-49,999	23	23	16	16	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
\$50,000-74,999	16	16	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
\$75,000+	16	16	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
DK/Refused	22	22	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
\$50,000+	16	16	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
< H.S./GED	29	29	16	16	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
H.S. Dipl./GED	16	16	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Some College	20	20	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
College Grad.	20	20	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Any College	20	20	20	20	20	20	20	20	20	22	22	20	20	20	20	22	22	20	20	22	22	20	20	20	21	21
Uninsured	39	39	18	18	26	26	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Insured	18	18	26	26	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Fair/Poor	26	26	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Good	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Excellent/Very Good	17	17	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
No	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Yes	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Flu Shot Past Year	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
No	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Yes	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Pneumonia Vac. (All Ages)	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
No	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Yes	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Pneumonia Vac. (Age 55+)	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
No	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Yes	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Current	27	27	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Former	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Never	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Leisure Exerc. Past Mnth.	30	30	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
No	30	30	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Yes	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Obese	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Overweight	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
Normal	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
DK/Refused	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21

Percent of Adults with Asthma with Activity Limitations (highlighted/starred = statistically elevated compared to others in same subcategory)

Average Annualized Percent of Iowa Adults with Current Asthma who Have Had Any Emergency or Urgent Health Care Provider Visit (to the Emergency Dept. or an Urgent Care Center) to Treat Asthma Symptoms in the Past 12 Months, by Risk Factor, BRFSS, 2001-2004

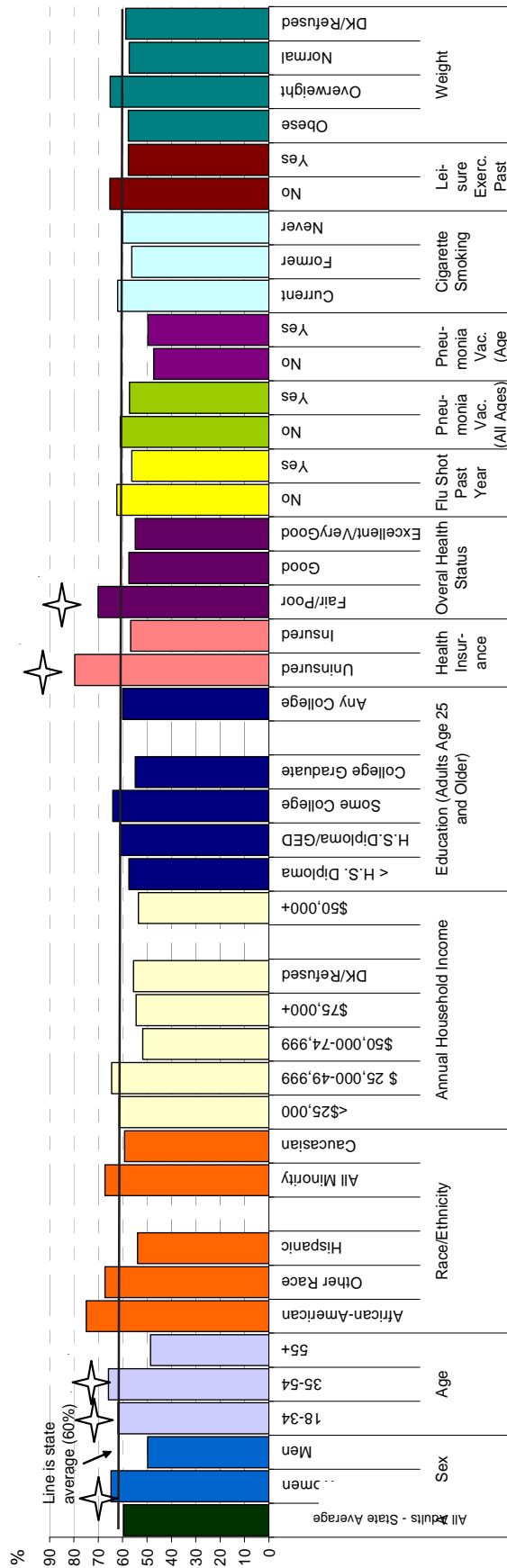


Subcategory	Percentage (%)	Statistically Elevated
All Adults	12	No
Women	14	No
Men	10	No
18-34	12	No
35-54	13	No
55+	12	No
African-American	28	Yes
Other Race	20	Yes
Hispanic	16	No
All Minority	21	Yes
Caucasian	12	No
<\$25,000	17	Yes
\$25,000-49,999	16	Yes
\$50,000-74,999	3	No
\$75,000+	9	No
DK/Refused	5	No
\$50,000+	6	No
< H.S. /GED	20	Yes
HS Dipl./GED	15	No
Some College	11	No
College Grad.	8	No
Any College	9	No
Uninsured	26	Yes
Insured	11	No
Fair/Poor	20	Yes
Good	10	No
Excellent/V. Good	10	No
No	14	No
Yes	11	No
No	12	No
Yes	13	No
No	17	No
Yes	11	No
Current	12	No
Former	17	Yes
Never	10	No
No	18	Yes
Yes	11	No
Obese	15	Yes
Overweight	12	No
Normal	11	No
DK/Refused	9	No

Percent of Adults with Asthma with who had Emergency Dept./Urgent Care (highlighted/starred = statistically elevated compared to others in same subcategory)

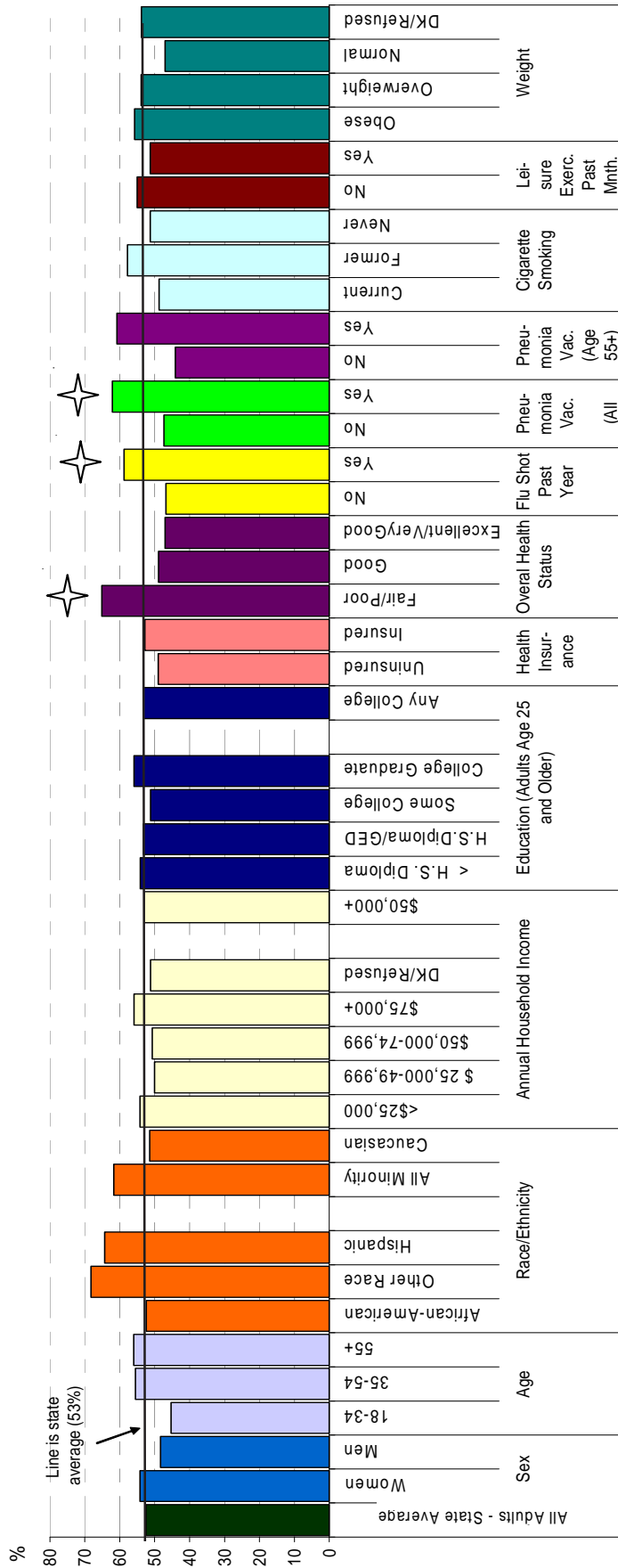


Average Annualized Percent of Iowa Adults with Current Asthma who Have Had an Asthma Attack, Activity Limitation or Any Health Care Provider Visit to Treat Asthma Symptoms(non-Preventive Visit) in the Past 12 Months, by Risk Factor, BRFSS, 2001-2004



Percent of Adults w/Asthma who Had Any Ambulatory Care for Symptoms, Asthma Attack or Activity Limitations (highlighted/starred = statistically elevated compared to others in same subcategory)	Percent	Significant
All Adults	60	No
Women	65	Yes
Men	50	Yes
18-34	62	Yes
35-54	66	Yes
55+	49	Yes
African-Amer.	67	Yes
Other Race	67	Yes
Hispanic	54	Yes
All Minority	67	Yes
Caucasian	59	Yes
<\$25,000	62	Yes
\$25,000-49,999	65	Yes
\$50,000-74,999	52	Yes
\$75,000+	55	Yes
\$50,000+	54	Yes
DK/Refused	56	Yes
< H.S./GED	58	Yes
HS Dipl./GED	61	Yes
Some College	64	Yes
College Grad.	55	Yes
Any College	60	Yes
Uninsured	80	Yes
Insured	57	Yes
Fair/Poor	70	Yes
Good	57	Yes
Excellent/V. Good	55	Yes
No	62	Yes
Yes	56	Yes
No	61	Yes
Yes	61	Yes
No	47	Yes
Yes	57	Yes
Current	62	Yes
Former	56	Yes
Never	60	Yes
No	65	Yes
Yes	58	Yes
Obese	58	Yes
Overweight	65	Yes
Normal	57	Yes
DK/Refused	58	Yes

# Average Annualized Percent of Iowa Adults with Current Asthma who Have Had a Preventive Checkup for Their Asthma in the Past 12 Months, by Risk Factor, BRFSS, 2001-2004



Percent of Adults w/Asthma who Received Preventive Check-Up for Asthma (highlighted/starred = statistically elevated compared to others in same subcategory)	
53	All Adults
54	Women
48	Men
45	18-34
56	35-54
52	55+
68	African-Amer.
64	Other Race
64	Hispanic
62	All Minority
51	Caucasian
54	<\$25,000
50	\$25,000-49,999
51	\$50,000-74,999
56	\$75,000+
51	DK/Refused
53	\$50,000+
53	Any College
49	Uninsured
53	Insured
65	Fair/Poor
49	Good
47	Excellent/V. Good
47	No
59	Yes
47	No
62	Yes
44	No
61	Yes
49	Current
58	Former
51	Never
51	No
55	Yes
51	No
56	Obese
54	Overweight
47	Normal
54	DK/Refused

## Background Information about the Iowa BRFSS

Established in 1988, the Iowa Behavioral Risk Factor Surveillance System (BRFSS) is a Center for Disease Control funded annual household interview survey in which self-reported information about the burden of chronic diseases and their risk factors is collected for the non-institutionalized adult population ages 18 years and older in each state. In Iowa, the Iowa Department of Public Health manages the survey in which about 5,000 households participate each year.

Due to the small BRFSS sample size, in most instances, statewide, but not county or regional level prevalence rates and counts can be computed.

In 1999, the Iowa BRFSS began to include questions covering asthma prevalence. In subsequent years, questions about frequency of symptoms, and use of health care services related to asthma were added. In 2001, questions were first asked about childhood asthma.

Those adults classified in this report as currently having asthma answered yes to these two questions in the BRFSS: "Have you ever had asthma?" and "Do you still have asthma?" Childhood asthma prevalence is discussed elsewhere in this report.

The IDPH has published a number of reports covering other health issues based on BRFSS data. These reports are available at: <http://www.idph.state.ia.us/brfss/default.asp>). The CDC BRFSS web site, which houses BRFSS questionnaires, datasets, reports and background on methodologies, is: <http://www.cdc.gov/brfss/>

## About the Iowa Asthma Control Program

The Iowa Asthma Control Program (IACP), administered by the Iowa Department of Public Health (IDPH) receives about \$400,000 in CDC funding each year to plan for and administer asthma control programming across the state. This report is produced by the IDPH's Center for Health Statistics using IACP funding. Other current efforts of the IACP include: child care provider training, school health staff training, monitoring of local open burning ordinances, and staffing of the statewide Iowa Asthma Coalition.

## Chapter Resources

Centers for Disease Control and Prevention, 2007 *Asthma Control Program Data and Surveillance* Web Site, <http://www.cdc.gov/asthma/brfss/99/brfssstechinfo.htm>.

Iowa Department of Public Health, Behavioral Risk Factor Surveillance System Web Site, Annual Reports: 1999-2006, <http://www.idph.state.ia.us/brfss/default.asp>, 2007

Iowa Department of Public Health, Behavioral Risk Factor Surveillance System Program, Unpublished 1999-2006 Data, 2007.

## Citation to Use

Muldoon, J, *Asthma in Iowa: Adult Asthma Prevalence, Symptoms and Services Used: BRFSS: 1999-2006*, Center for Health Statistics, Iowa Dept. of Public Health, 2007.

## Acknowledgement of CDC

This report was supported by a cooperative Agreement from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the author and do not necessarily represent the official views of CDC.

## Where to Go for More Information on Asthma

For more information about the burden of asthma in Iowa or to review the full Asthma In Iowa report, its updates or newsletters published by the IACP, contact us at the IACP :

**Web site address:**

<http://www.idph.state.ia.us/hpcdp/asthma.asp>

**Mailing address:**

Asthma Epidemiologist  
Center for Health Statistics, IA Department  
of Public Health  
Fifth Floor, Lucas Bldg, 321 – E12th St  
Des Moines, IA 50319

**Phone:**

(515) 242-5849

**Fax:**

(515) 281- 4529

**E-mail:**

[Jmuldoon@idph.state.ia.us](mailto:Jmuldoon@idph.state.ia.us)

**For more information about IDPH asthma control program services for children and adults, visit the IACP web site listed above or contact the program at:**

**Phone:** (515) 281-4779

**E-mail:** [Ahoffman@idph.state.ia.us](mailto:Ahoffman@idph.state.ia.us)

List of Adult Asthma BRFSS Data Tables Used to Write this Report  
 (Tables are found in the appendix of this report)

Table	Page
1: <i>By Risk Factor, Current Asthma Prevalence Rates and Counts Among Iowa Adults</i>	BRFSS Tables-2
2: <i>By Race and Gender, Current Asthma Prevalence Rates and Counts Among Iowa Adult</i>	BRFSS Tables-4
3: <i>By Risk Factor, Race and Gender, Current Asthma Prevalence Rates and Counts Among Iowa Adults</i>	BRFSS Tables-6
4.1: <i>By Risk Factor Percent of Adults with Current Asthma Percent who Have Had Any Symptoms, Urgent Care Visits or Preventive Visits in Past 12 Months Related to Their Asthma</i>	BRFSS Tables-14
4.2: <i>By Risk Factor Count of Adults with Current Asthma Percent who Have Had Any Symptoms, Urgent Care Visits or Preventive Visits in Past 12 Months Related to Their Asthma</i>	BRFSS Tables-16
5: <i>By Race and Gender for Selected Asthma Risk Factors, Adult Current Asthma Prevalence Rates that are Statistically Elevated</i>	BRFSS Tables-18
6: <i>By Race and Gender for Selected Asthma Risk Factors, Adult Current Asthma Prevalence Counts that are Statistically Elevated</i>	BRFSS Tables-19