



State of Illinois  
Illinois Department of Public Health

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# The Burden of Asthma in Illinois, 2000-2011

August 2013

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## Executive Summary

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Asthma is a chronic lung disease caused by inflammation of the lower airways and episodes of airflow obstruction. Asthma episodes or attacks can vary from mild to life-threatening. About 14 percent of Illinois residents, or 1.3 million people, have ever been diagnosed with asthma (2011)\*.

Asthma may manifest at any age, and varies greatly in the frequency, severity and duration of symptoms throughout a lifetime. Asthmatic episodes may cease to exist for some people with asthma. While the cause or causes of asthma remain unknown, numerous factors, such as inhalation of allergens or pollutant, infection, cold air, vigorous exercise and emotional stress, have been identified as triggers of asthma symptoms and episodes. Although asthma cannot be cured, symptoms can be controlled with appropriate medical care and combined efforts to control exposure to triggers, allowing people with asthma to lead lives largely unrestricted by their asthma.

People with asthma require frequent interaction with the health care system to manage their asthma. When asthma is properly managed, inpatient hospitalizations and emergency department visits can be prevented.

Among Illinois residents in 2011, there were more than 20,200 asthma hospitalizations, at a total cost of \$383.3 million†. These costs are an underestimation because they do not account for asthma hospitalizations for out-of-state residents; Illinois residents hospitalized for asthma in other states and indirect expenses, such as missing work or school; and employer absenteeism costs.

The past few years have shown some promising trends—asthma prevalence has remained stable since 2000, asthma hospitalization has declined almost 20 percent and asthma mortality has declined around 30 percent‡.

The Illinois Department of Public Health Asthma Program leads the Illinois Asthma Partnership in the development of a comprehensive state asthma plan to address asthma. Through implementation of the plan and the work and efforts of the Illinois Asthma Partnership, Illinois continues to address its goal of reducing morbidity and mortality from asthma, thereby reducing the costs associated with the disease and improving the quality of life for people with asthma and the people who care for them.

*The Burden of Asthma in Illinois* is a data-specific report with an intended audience of asthma professionals within and outside of the Illinois Asthma Partnership, including health care providers, public health professionals, people with asthma and those that care for them. *The Burden of Asthma in Illinois* is the third comprehensive statewide asthma surveillance report and will serve as a source of baseline data to help focus asthma interventions and policies for the next asthma state plan.

\*Illinois Behavioral Risk Factor Surveillance System

†IDPH, Office of Policy, Planning, and Statistics, Inpatient Hospital Discharge Data

‡U.S. Centers for Disease Control and Prevention, National Center for Health Statistics

**Asthma Prevalence in Adults**

- In 2011, 13.5 percent of Illinois adults reported having ever been told by a health care provider that they have asthma (lifetime asthma) and 8.1 percent of Illinois have current asthma. [Behavioral Risk Factor Surveillance System (BRFSS, 2011)]
- Lifetime asthma was higher in adult women than men (14.9% vs. 12.1%), and women were more likely to report current asthma (10.3% vs. 5.9%). [BRFSS, 2011]
- Among Illinois adults, current asthma is highest in those over the age of 24 years, black and lower socio-economic status. [BRFSS, 2011]
- Lifetime adult asthma prevalence was highest in Hardin County (22.8%) and lowest in Pope County (5.1%). [BRFSS, 2007-2009]
- More adults with current asthma are obese compared to all adults (42.3% vs. 27.2%). [BRFSS, 2011]

**Asthma Prevalence in Youth**

- In 2010, 13.6 percent of Illinois youth reported having ever been told by a health care provider that they have asthma and 9.8 percent still had asthma. [BRFSS]
- Lifetime youth asthma was higher among males than females (14.6% vs. 12.4%), and males were more likely to report current asthma (10.8% vs. 8.8%). [BRFSS, 2011]
- Lifetime and current asthma was highest among black non-Hispanic youth (lifetime-25.1%, current-21.7%). [BRFSS, 2011]
- Lifetime child asthma prevalence was highest in Hamilton County (26.1%) and lowest in Jasper County (4.5%). [BRFSS, 2007-2009]

**Quality of Life Issues for People Living with Asthma**

- Nearly a third of adults with asthma (29.2%) and half of children with asthma (52.3%) reported having no asthma symptoms in the past 30 days. Additionally, more than half of adults and children with asthma (57.9% and 56.8%) reported no trouble sleeping in the past 30 days due to their asthma. [BRFSS Asthma Call-Back Survey (ACBS), 2007-2010]
- More adult females reported having an asthma attack in the past 12 months than adult males (34.9% vs. 23.3%). The highest percent of having an asthma episode or attack in the past year was in the under 5 years age category (72.8%). [BRFSS ACBS, 2007-2010]

- Adults with current asthma reported having the fewest number of healthy days in the past month compared to adults with lifetime asthma or no asthma (17.0 vs. 20.6 vs. 23.7). [BRFSS, 2011]
- Less than half of adults and children with asthma have ever taken a course on how to manage their asthma; have received an asthma action plan; have been advised to change things in their home, school or work to address triggers and improve their asthma; or have been taught how to use a peak flow meter to adjust daily medications. [BRFSS ACBS, 2007-2010]
- In adults with active asthma, 6 percent had to change or quit their job due to their asthma. [BRFSS ACBS, 2007-2010]

### **Environmental Triggers**

- Outdoor public places are the most common source of secondhand smoke exposure. About 38 percent of adults with lifetime asthma reported secondhand smoke exposure in an outdoor public place. [Adult Tobacco Survey, 2011]
- Middle and high school students with asthma reported being exposed to secondhand smoke at home or in a car more than students without asthma. [Youth Tobacco Survey, 2010]
- Less than half of adults and children with asthma report regular use of an air cleaner or purifier, regular use of a dehumidifier or use of a mattress or pillow cover for protection from dust mites. More than half of adults and children have a carpeted bedroom or indoor pets, and nearly half allow pets in the bedroom. [BRFSS ACBS, 2007-2010]

### **Health Care and Hospitalizations**

- Significantly more children (64.7%) than adults (35.7%) with asthma had a routine checkup in the past 12 months and significantly more children (99.6%) than adults (89.8%) have health insurance. [BRFSS ACBS, 2007-2010]
- Emergency department visits in the past year due to asthma among adults were highest for those who were male, age 45 to 54, black and of low socio-economic status. Emergency department visits in the past year due to asthma among children were highest for those who were female, ages 0 to 4 and black. [BRFSS ACBS, 2007-2010]
- Asthma hospitalizations have declined from 2000 and 2011. Asthma hospitalization rates were highest among females and children less than the age of 5. [Hospital Discharge Data (HDD)]

- The average asthma hospitalization was for 3.2 days and cost slightly more than \$20,000. In 2011, the total cost due to asthma hospitalizations was more than \$380 million. [HDD]
- Asthma hospitalizations were highest in St. Clair County (395.3 per 10,000) and lowest in Mason County (1.1 per 10,000). [HDD]

**Asthma Mortality**

- Asthma mortality rates declined from 2000 to 2010. In 2010, the asthma mortality rate was 13.9 asthma deaths per million population compared to 20.2 asthma deaths per million population in 2000. [National Center for Health Statistics (NCHS)]
- Asthma mortality rates were highest among those who were female, age 65 or older and black. [NCHS]

Asthma is one of the most common chronic diseases. Nationally, one in 11 children has asthma and one in 12 adults has asthma. Black children are two times more likely to have asthma than white children<sup>1</sup>.

The following definitions are used in this report to describe asthma:

- *Lifetime asthma* is when an adult or child has ever been told by a doctor, nurse or other health professional they have asthma.
- *Current asthma* is when the adult or child has ever been told they have asthma and they still have asthma at the time they responded to the survey.
- *Active asthma* is when an adult or child has had asthma symptoms, or used asthma medication or had a visit with a physician due to asthma in the past 12 months.

To assess adult prevalence of asthma, the Behavioral Risk Factor Surveillance System (BRFSS) is used. The BRFSS uses the following questions to define asthma for adults:

- Have you ever been told by a doctor, nurse or other health professional that you have asthma?
- Do you still have asthma?

BRFSS questions used to define asthma for children are similar. A parent or guardian will respond to the following questions:

- Has a doctor, nurse or other health professional ever said the child has asthma?
- Does the child still have asthma?

BRFSS respondents who report ever being diagnosed with asthma are eligible for the Asthma Call-Back Survey (ACBS).

- How long has it been since you last talked to a doctor or other health professional about your asthma? This could have been in your doctor's office, the hospital, an emergency department or urgent care center.
- How long has it been since you last took asthma medication?
- How long has it been since you last had any symptoms of asthma?

Additionally, the Illinois Department of Public Health administers a Youth Tobacco Survey (YTS). The YTS uses the following questions to define asthma for youth:

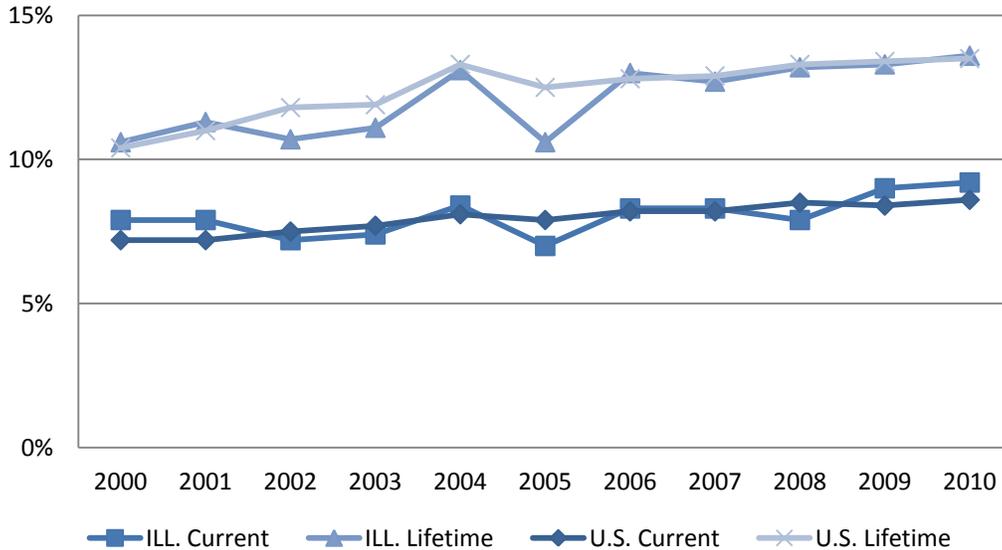
- Have you ever been told by a doctor, nurse or other health professional you have asthma?
- Do you still have asthma?
- During the past 12 months, have you had an episode of asthma or asthma attack?

Because much of the data used in this report comes from surveys, 95 percent confidence intervals (95% CI) are shown, when available, as an indication of the margin of error associated with the survey results.

Accompanying tables for each figure may be found in Appendix A and Appendix B.

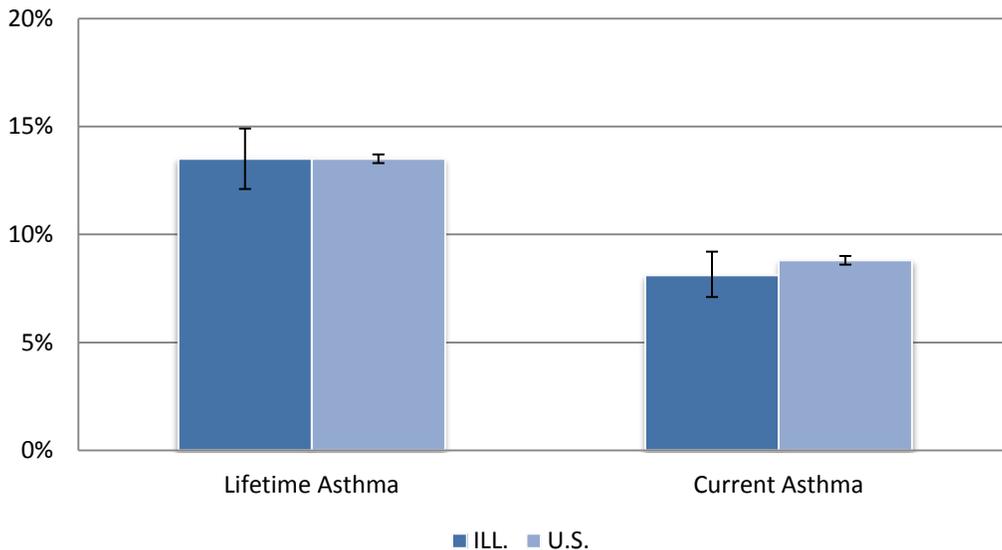
The purpose of this report is to use all available data sources to describe the burden of asthma in Illinois. A complete description of data sources used may be found in Appendix C.

**Figure 1.** Lifetime and current adult asthma prevalence, Illinois vs. United States, 2000-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

**Figure 2.** Lifetime and current adult asthma prevalence, Illinois vs. United States, 2011

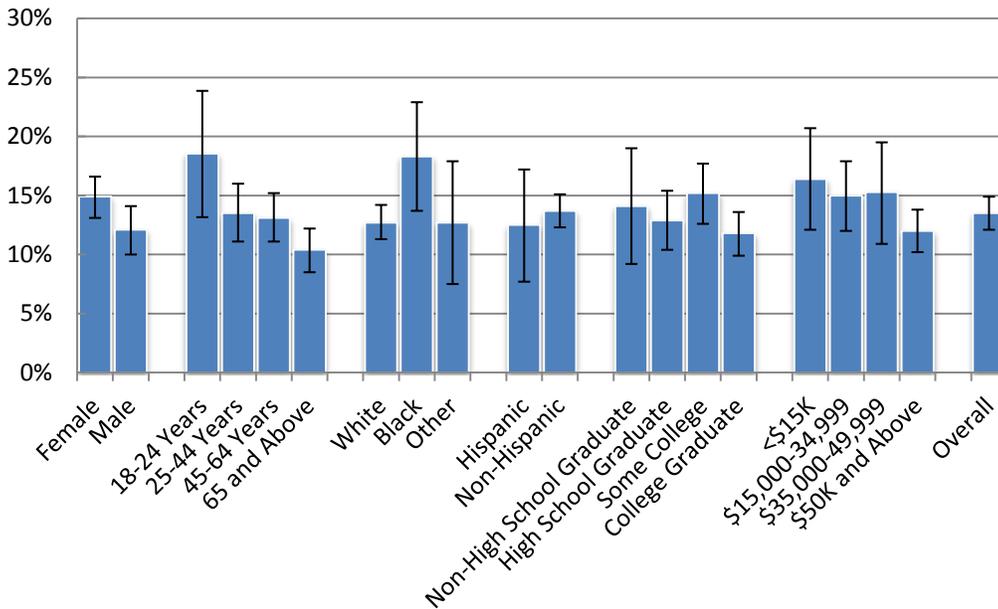


Note: Due to sampling and weighting methodology changes in BRFSS, 2011 data should not be compared with prior years

Sources: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011; U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2011.

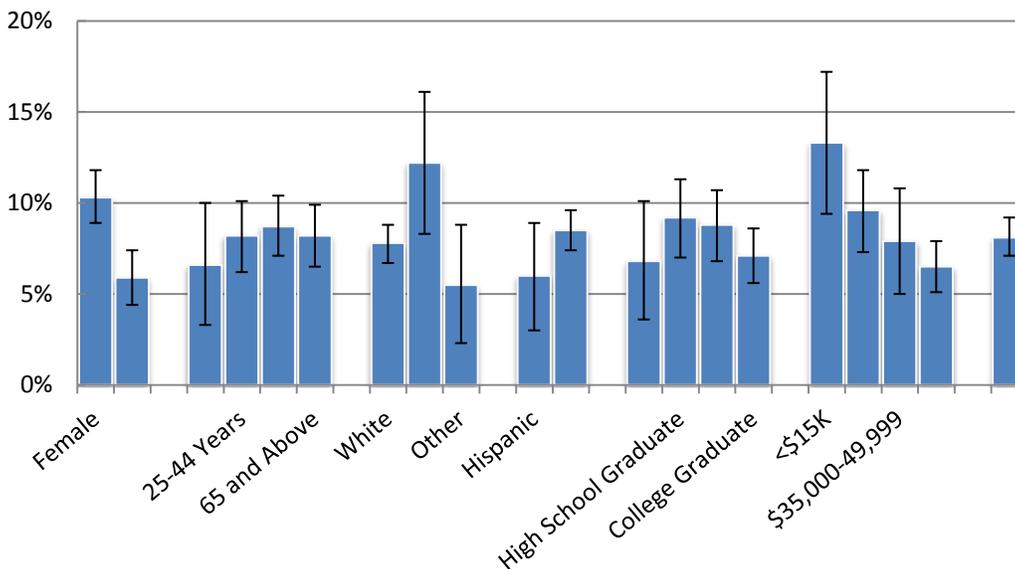
- Consistent with the national asthma trend, current adult asthma prevalence in Illinois increased from 2000 to 2010 (ILL.: 7.9% to 9.2%; U.S.: 7.2% to 8.6%).
- Consistent with the national asthma trend, lifetime adult asthma prevalence in Illinois increased from 2000 to 2010 (ILL.: 10.6% to 13.6%; U.S.: 10.4% to 13.5%).
- In 2011, Illinois did not differ from the nation in the prevalence of lifetime asthma for adults (13.5%).
- Illinois current adult asthma prevalence (8.1%) is lower than the United States (8.8%).

**Figure 3.** Lifetime adult asthma prevalence by demographics, Illinois, 2011



Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

**Figure 4.** Current adult asthma prevalence by demographics, Illinois, 2011



Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

- Lifetime and current adult asthma prevalence is greater in females than males.
- Lifetime adult asthma prevalence was highest among the 18 to 24 year old age group (18.6%) and the lowest lifetime adult asthma prevalence in the 65 year old age group (10.4%). However, this trend is not seen in adults with current asthma.
- Lifetime and current adult asthma prevalence was highest among blacks.
- Lifetime and current adult asthma prevalence was highest among non-Hispanics.
- There were no adult prevalence differences by level of education.
- Current adult asthma prevalence decreases as household income increased. Significantly more people who make <\$15,000 a year (13.3%) have current asthma than those who make ≥\$50,000 a year (6.5%).

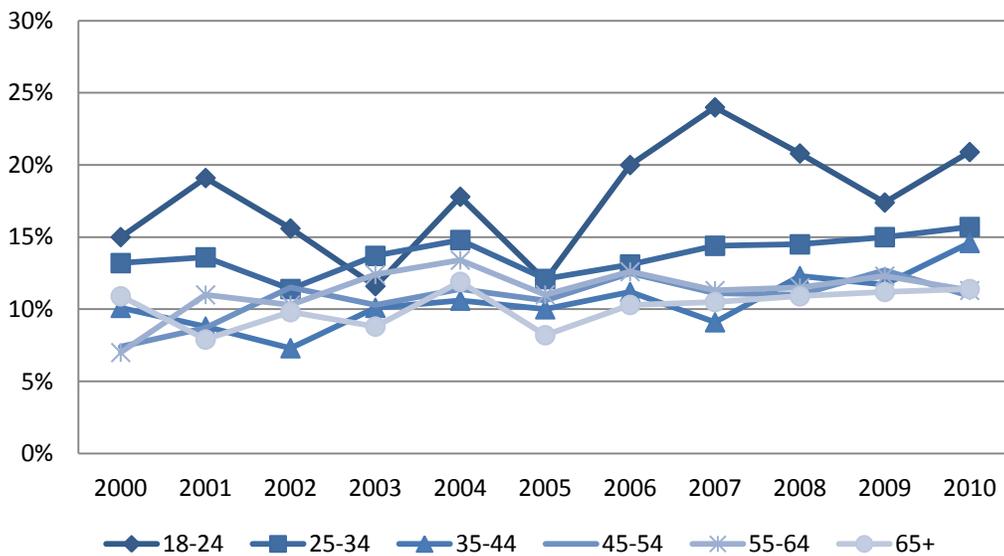
**Figure 5.** Lifetime adult asthma prevalence by sex, Illinois, 2000-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

- Lifetime adult asthma prevalence trends by gender has increased for both females and males from 2000 to 2010.

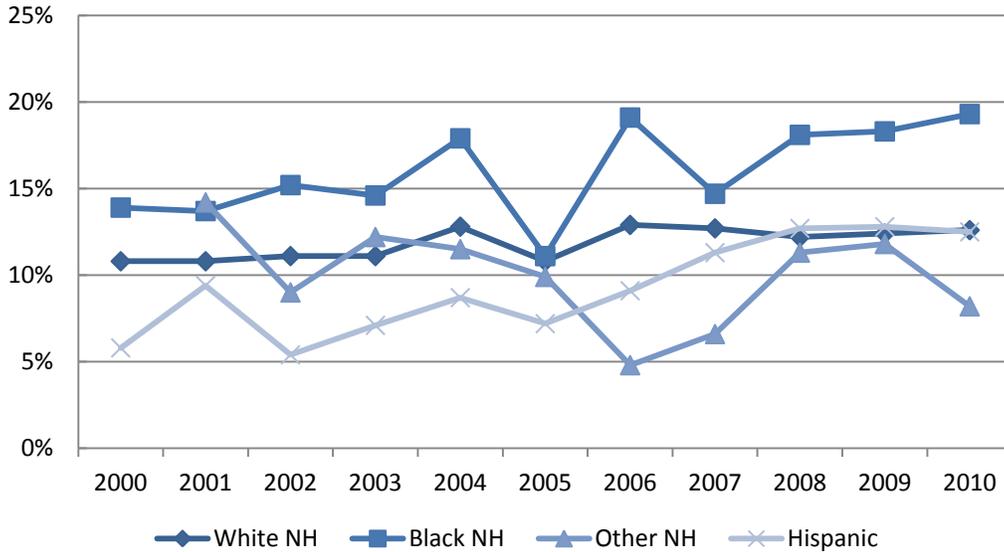
**Figure 6.** Lifetime adult asthma prevalence by age group, Illinois, 2000-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

- Lifetime adult asthma prevalence trends across each age category have increased from 2000 to 2010.

**Figure 7.** Lifetime adult asthma prevalence by race/ethnicity, Illinois, 2000-2010



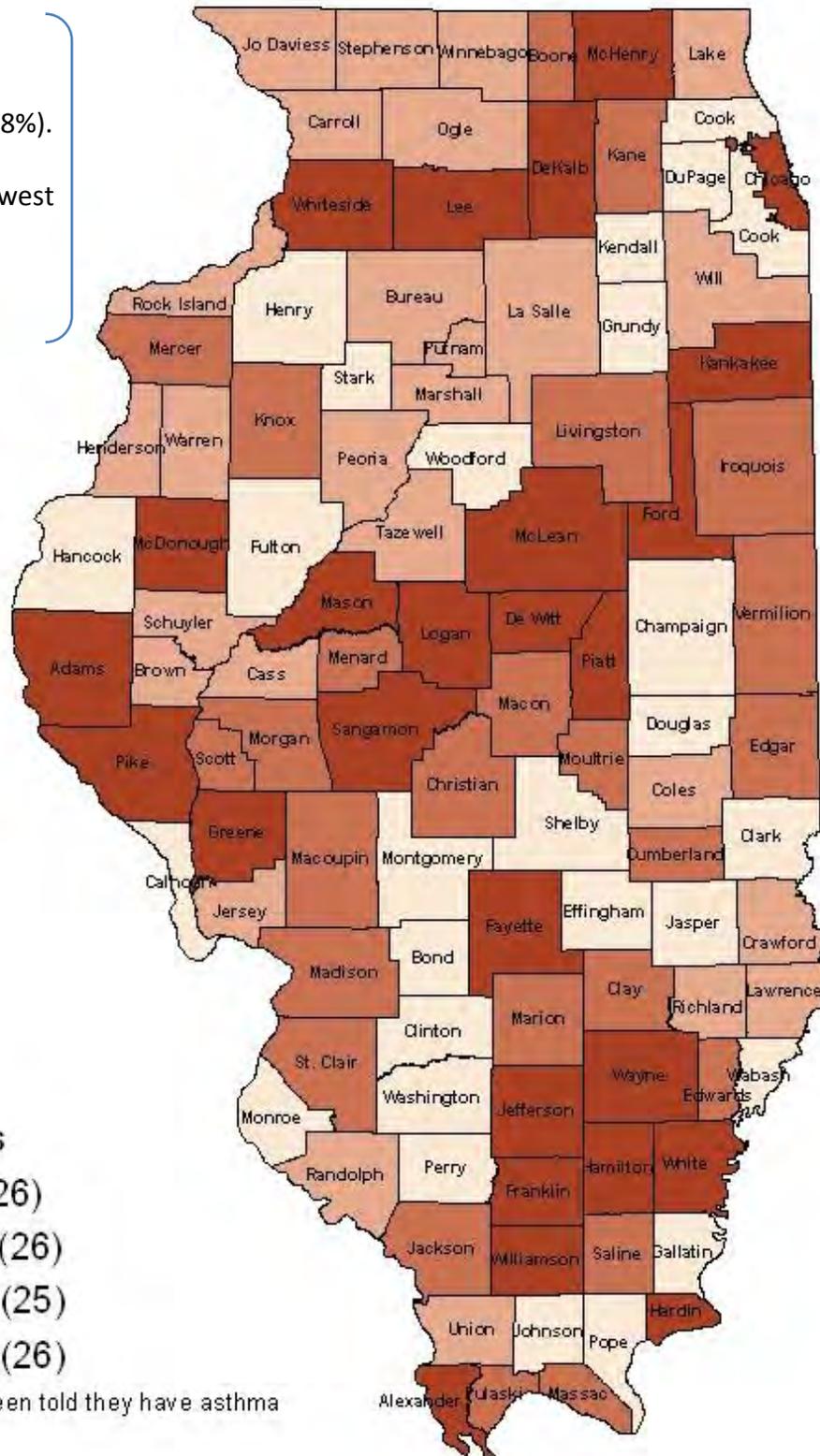
Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

- Lifetime adult asthma prevalence increased for white, non-Hispanics (NH) from 10.8 percent in 2000 to 12.6 percent in 2010.
- Lifetime adult asthma prevalence increased for black, non-Hispanics (NH) from 13.9 percent in 2000 to 19.3 percent in 2010.
- Lifetime adult asthma prevalence has been unstable for other, non-Hispanics (NH) from 2000 to 2010.
- There has been no clear trend in lifetime adult asthma prevalence for Hispanics.

Map 1. Illinois lifetime adult asthma prevalence by county, 2007-2009

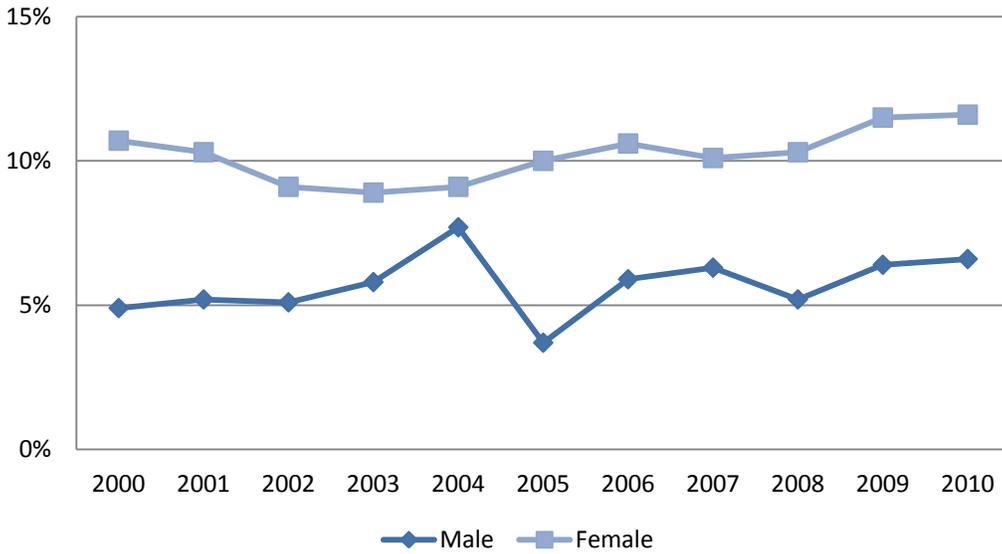
Hardin County has the highest lifetime adult asthma prevalence (22.8%).

Pope County has the lowest lifetime adult asthma prevalence (5.1%).



Source: Illinois County Behavioral Risk Factor Surveys, 2007-2009  
 Note: Chicago and Cook County values are from 2009 annual BRFSS

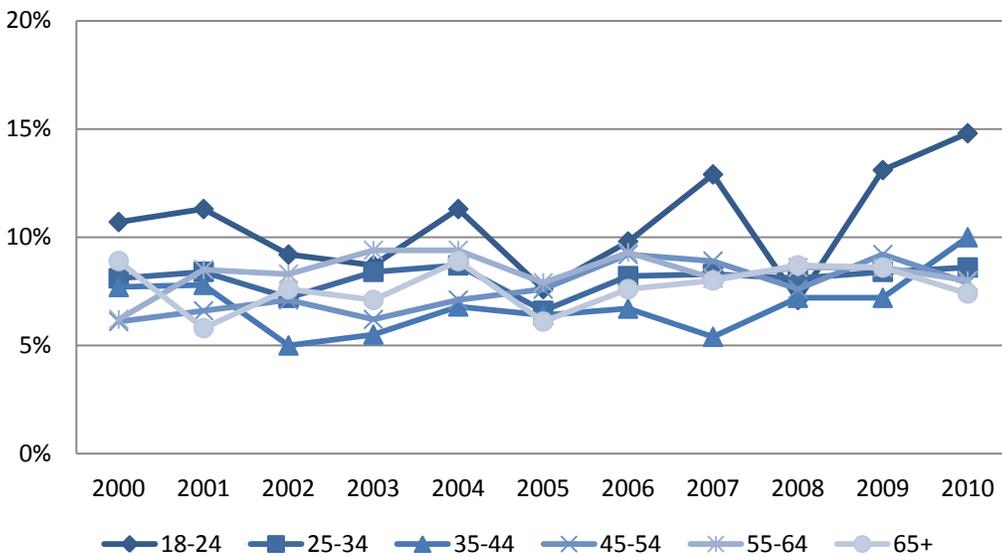
**Figure 8.** Current adult asthma prevalence by sex, Illinois, 2000-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

- Current adult asthma prevalence by gender have trended upward for both females and males from 2000 to 2010.

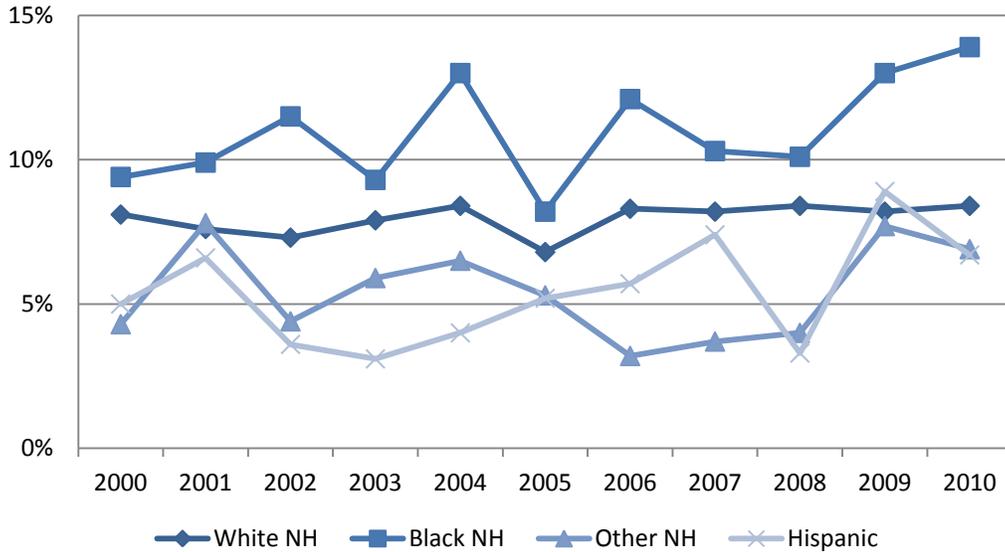
**Figure 9.** Current adult asthma prevalence by age group, Illinois, 2000-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

- Current adult asthma prevalence across each age category have demonstrated no clear trend from 2000 to 2010. With the exception of the 65 years and older age group, the trend decreased.

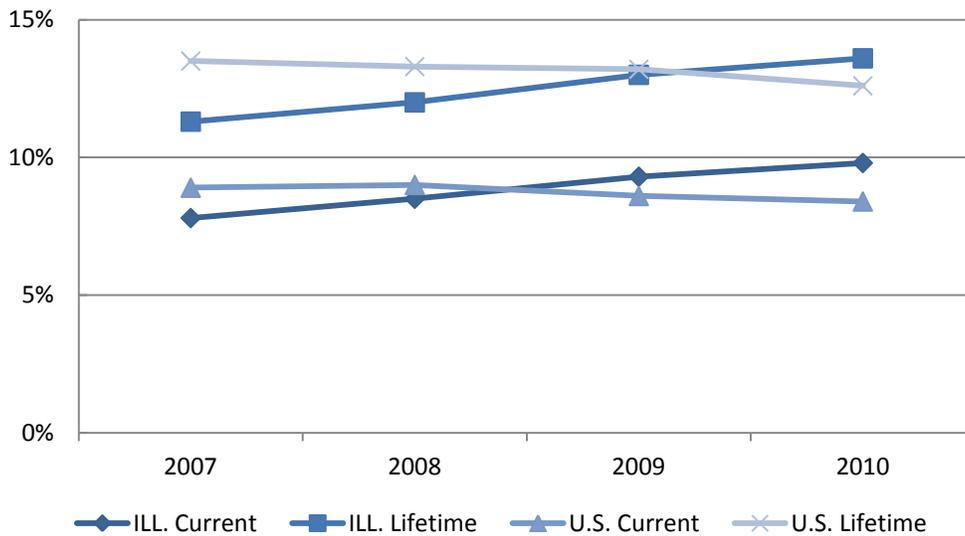
**Figure 10.** Current adult asthma prevalence by race/ethnicity, Illinois, 2000-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

- Current adult asthma prevalence remained stable for white, non-Hispanics (NH) from 8.1 percent in 2000 to 8.4 percent in 2010.
- Current adult asthma prevalence increased for black, non-Hispanics from 9.4 percent in 2000 to 13.9 percent in 2010.
- Current adult asthma prevalence has been unstable for other, non-Hispanics from 2000 to 2010.
- Current adult asthma prevalence has been unstable for Hispanics, from 2000 to 2010.

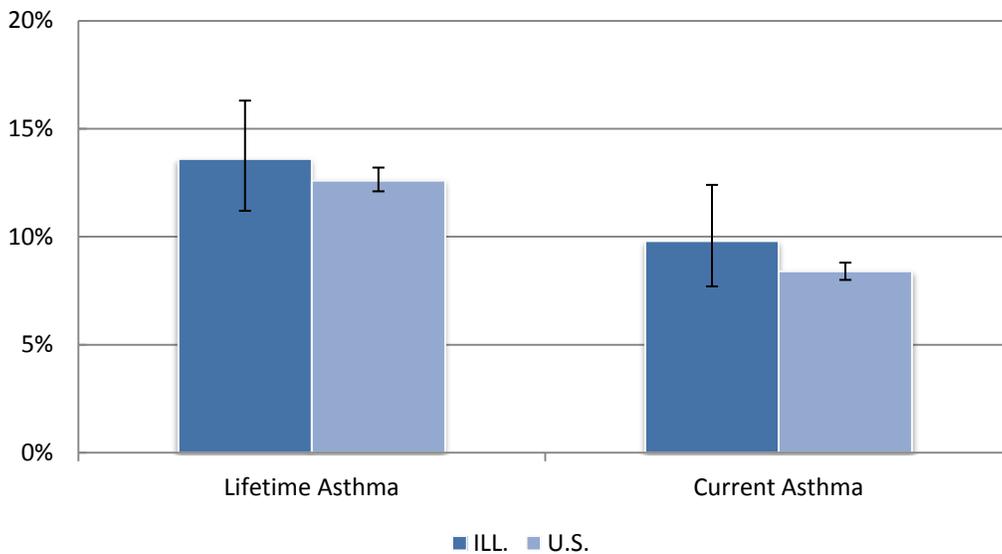
**Figure 11.** Lifetime and current youth asthma prevalence, Illinois vs. United States, 2007-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

- Illinois lifetime youth asthma prevalence has increased from 11.3 percent in 2007 to 13.6 percent in 2010, while the prevalence among United States youth has declined (13.5% to 12.6%).
- Illinois current youth asthma prevalence has increased from 7.8 percent in 2007 to 9.8 percent in 2010, while the prevalence in United States youth has declined (8.9% to 8.4%).

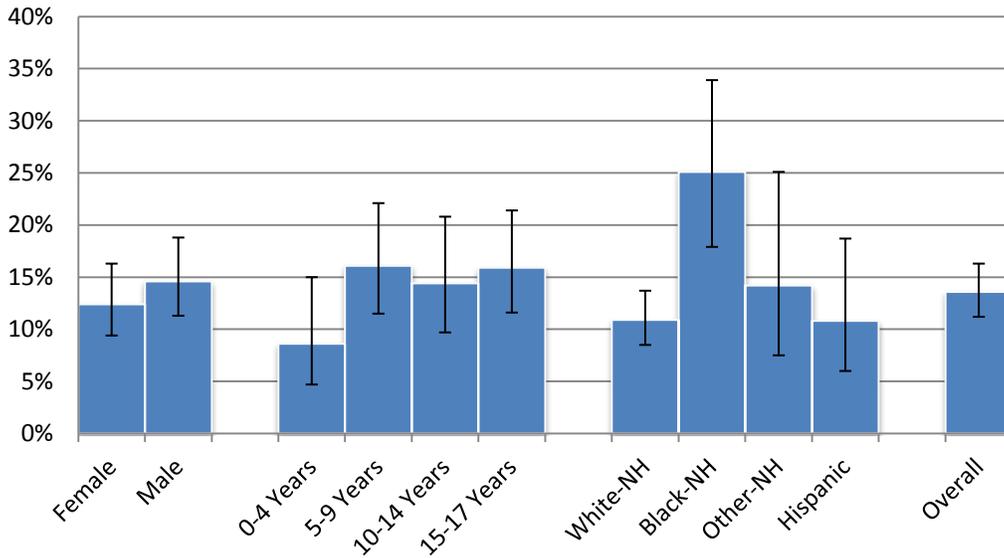
**Figure 12.** Lifetime and current youth asthma prevalence, Illinois vs. United States, 2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2010.

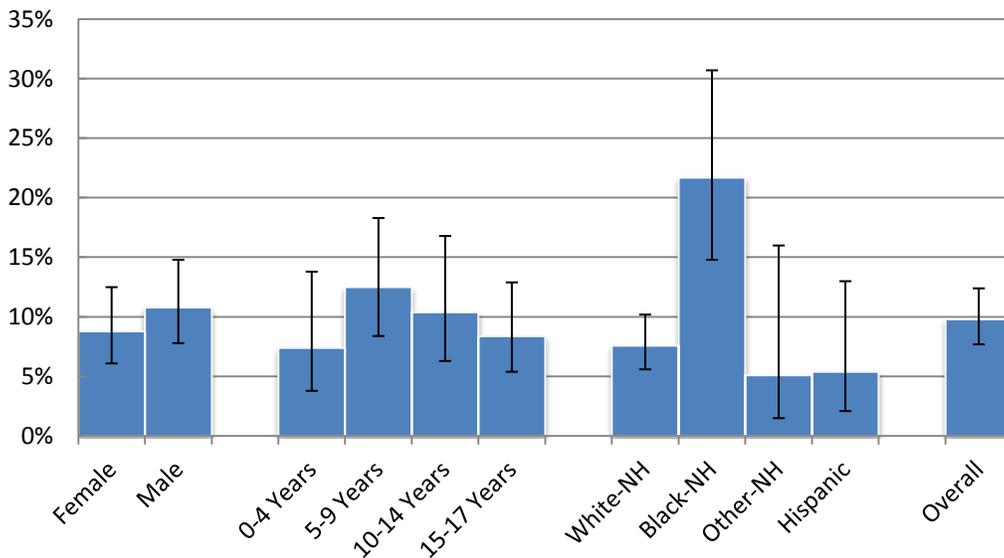
- Illinois lifetime youth asthma prevalence is higher (13.6%) than the United States (12.6%).
- Illinois current youth asthma prevalence is higher (9.8%) than the United States (8.4%).

**Figure 13.** Lifetime youth asthma prevalence by demographics, Illinois, 2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2010.

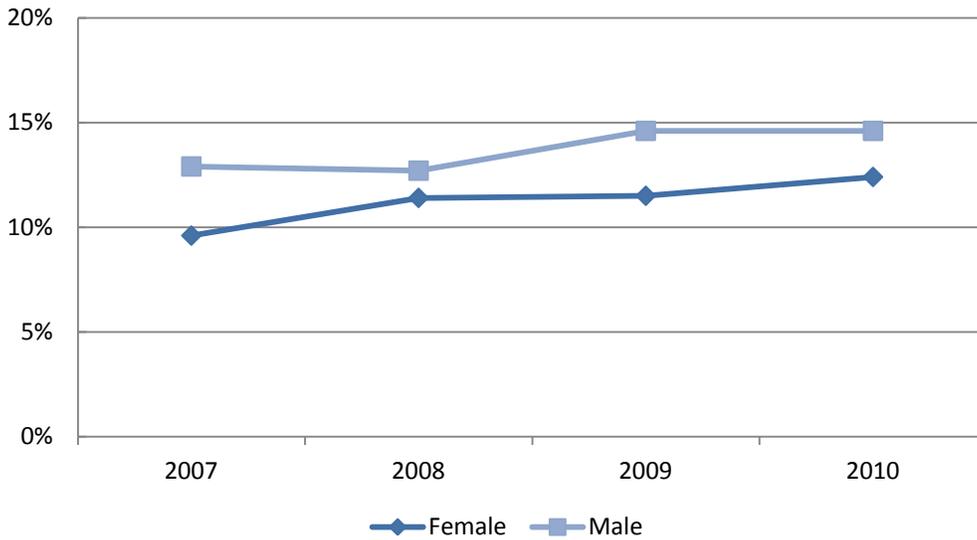
**Figure 14.** Current youth asthma prevalence by demographics, Illinois, 2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2010.

- Lifetime and current youth asthma prevalence is greater in males than females.
- Lifetime and current youth asthma prevalence was lowest among the 0 to 4 years old age group and highest in the 5 to 9 years old age group.
- Lifetime and current youth asthma prevalence was highest among black, non-Hispanics (NH).
- Significantly more black, non-Hispanic youth have current and lifetime asthma than white, non-Hispanic youth.

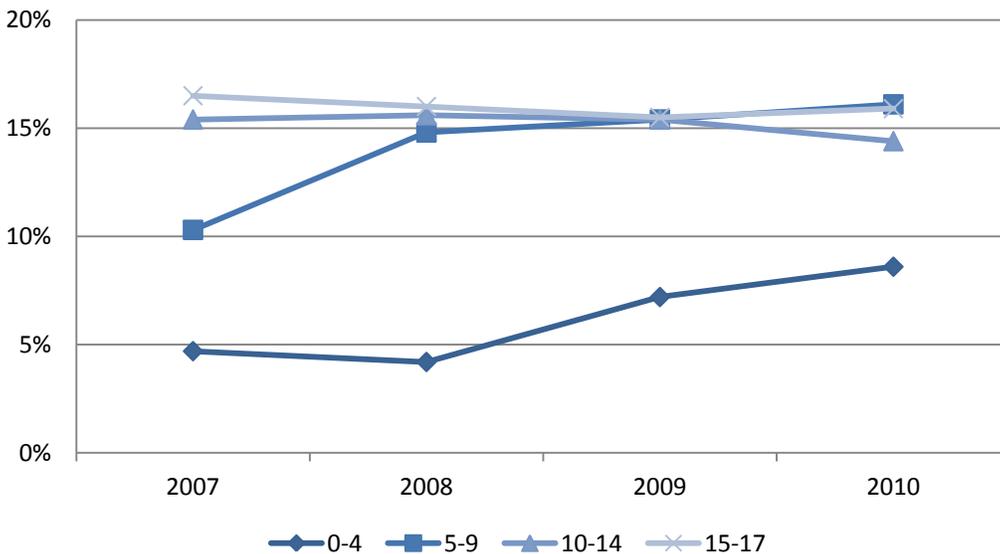
**Figure 15.** Lifetime youth asthma prevalence by sex, Illinois, 2007-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

- Lifetime youth asthma prevalence has increased in males from 12.9 percent in 2007 to 14.6 percent in 2010, while the prevalence in females has also increased (9.6% to 12.4%).

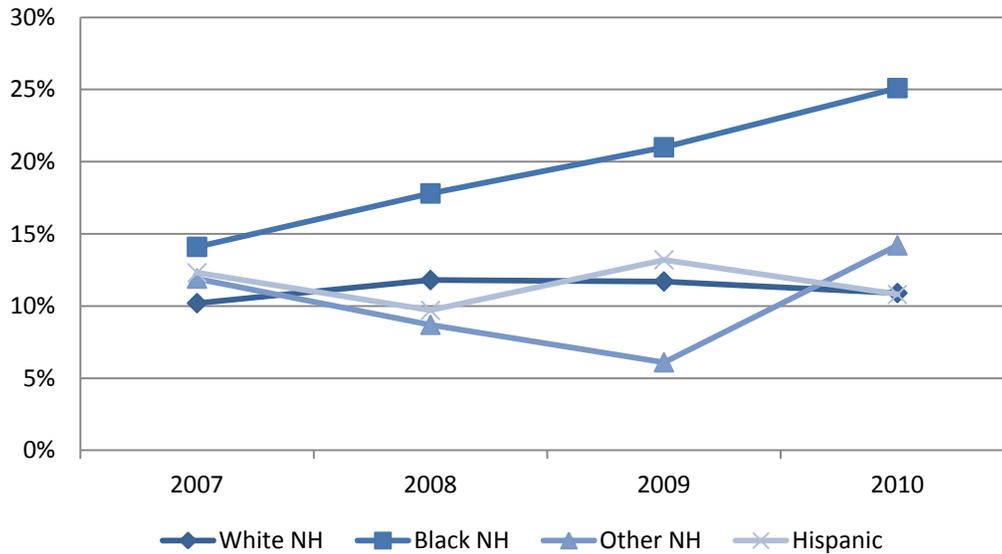
**Figure 16.** Lifetime youth asthma prevalence by age group, Illinois, 2007-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

- Lifetime youth asthma prevalence has increased in the 0 to 4 years old age group (4.7% to 8.6%) and the 5 to 9 years old age group (10.3% to 16.1%). It has remained relatively stable in the 10 to 14 years old age group (15.4% to 14.4%) and 15 to 17 years old age group (16.5% to 15.9%).

**Figure 17.** Lifetime youth asthma prevalence by race/ethnicity, Illinois, 2007-2010



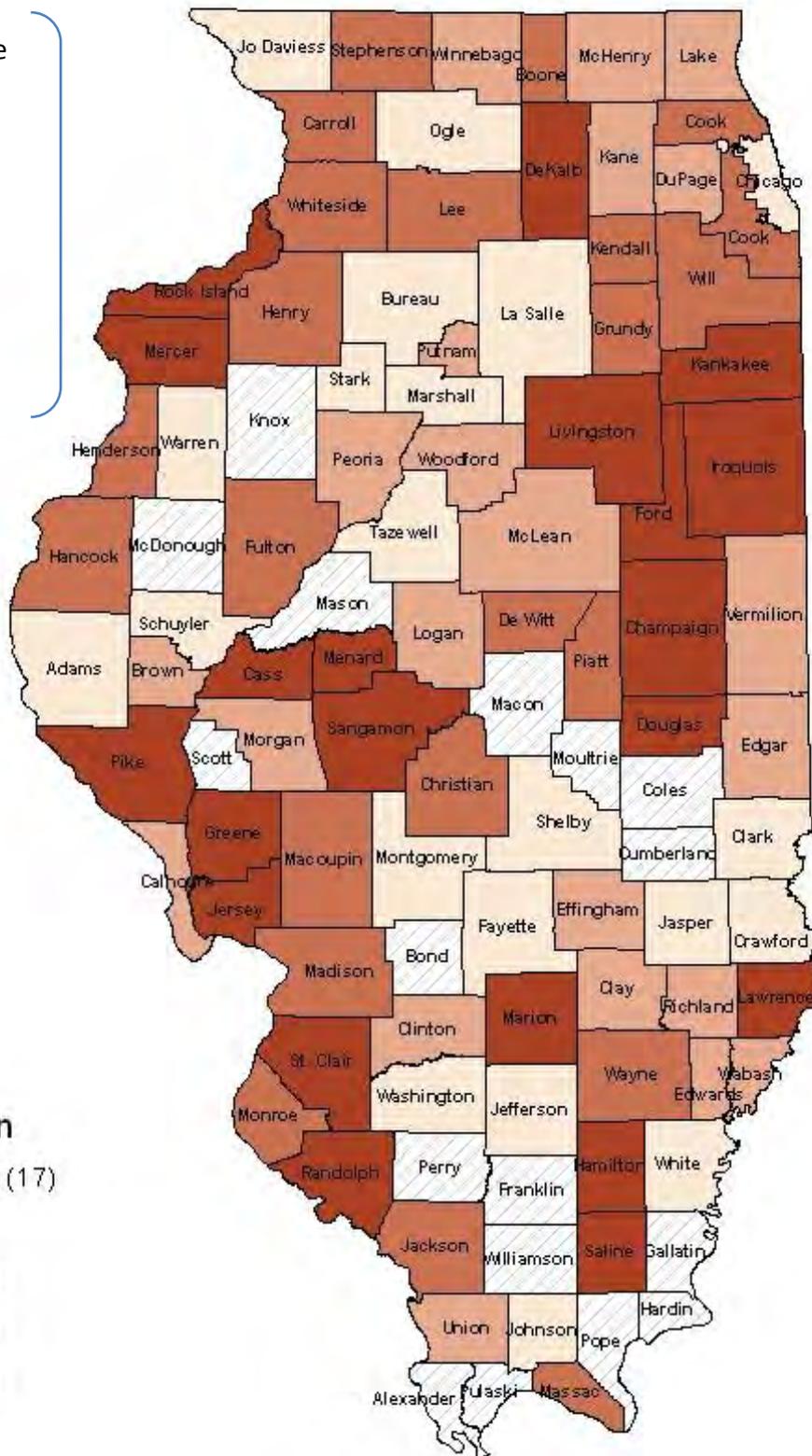
Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

- Lifetime youth asthma prevalence remained stable for white, non-Hispanics (NH) from 10.2 percent in 2007 to 10.9 percent in 2010.
- Lifetime youth asthma prevalence has steadily increased in black, non-Hispanics from 14.1 percent in 2007 to 25.1 percent in 2010.
- Lifetime youth asthma prevalence has been unstable for other, non-Hispanics from 2007 to 2010.
- Lifetime youth asthma prevalence has been unstable for Hispanics from 2007 to 2010.

Map 2. Illinois lifetime child asthma prevalence by county, 2007-2009

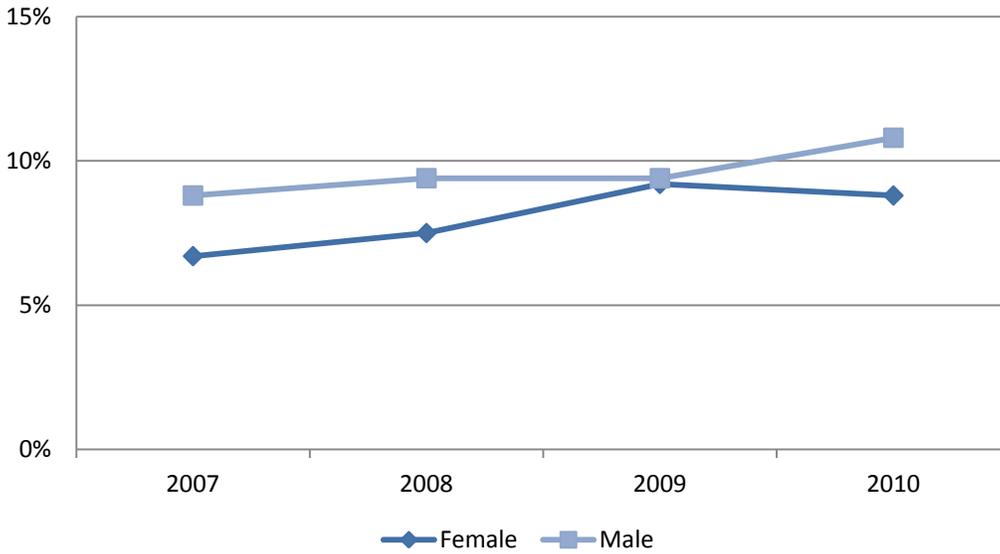
Hamilton County has the highest prevalence of children with lifetime asthma (26.1%).

Jasper County has the lowest prevalence of children with lifetime asthma (4.5%).



Source: Illinois County Behavioral Risk Factor Surveys, 2007-2009

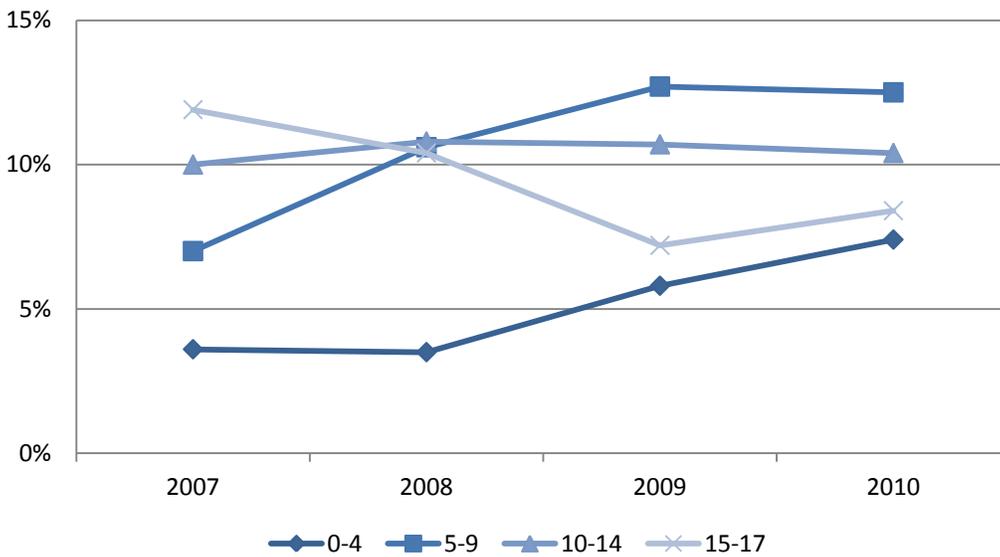
**Figure 18.** Current youth asthma prevalence by sex, Illinois, 2007-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

- Current youth asthma prevalence has increased in males from 8.8 percent in 2007 to 10.8 percent in 2010, while the prevalence in females also has increased (6.7% to 8.8%).

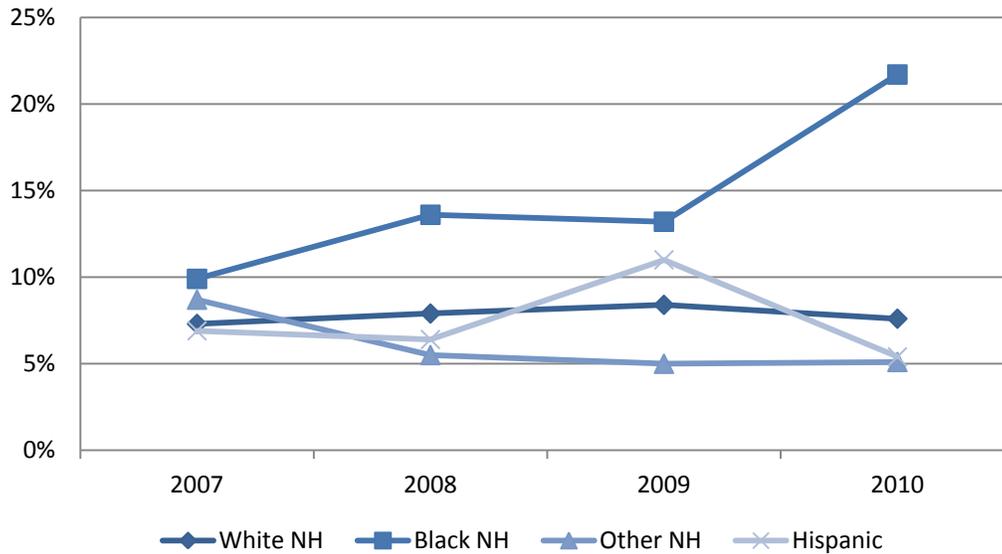
**Figure 19.** Current youth asthma prevalence by age group, Illinois, 2007-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

- Current youth asthma prevalence has increased in the 0 to 4 years old age group (3.6% to 7.4%) and the 5 to 9 years old age group (7.0% to 12.5%). It has remained stable in the 10 to 14 years old age group (10.0% to 10.4%) and decreased in the 15 to 17 years old age group (11.9% to 8.4%).

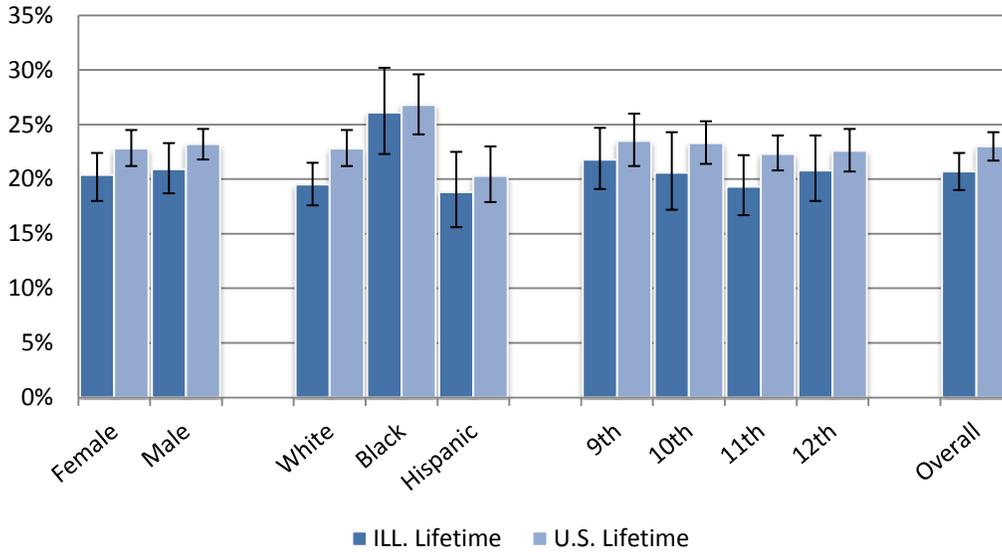
**Figure 20.** Current youth asthma prevalence by race/ethnicity, Illinois, 2007-2010



Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

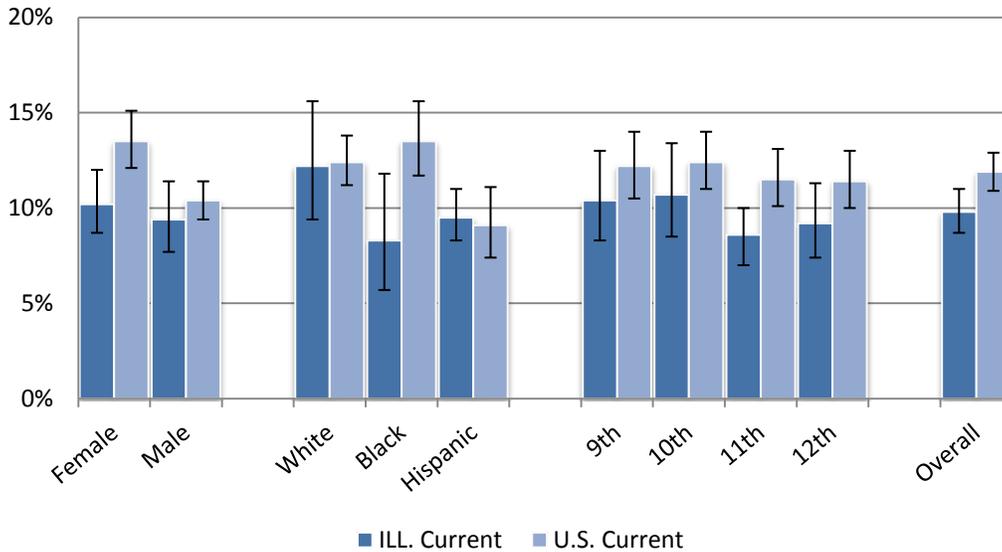
- Current youth asthma prevalence remained stable for white, non-Hispanics (NH) from 7.3 percent in 2007 to 7.6 percent in 2010.
- Current youth asthma prevalence has increased in black, non-Hispanics from 9.9 percent in 2007 to 21.7 percent in 2010.
- Current youth asthma prevalence has decreased for other, non-Hispanics from 8.7 percent in 2007 to 5.1 percent in 2010.
- Current youth asthma prevalence has been unstable for Hispanics from 2007 to 2010.

**Figure 21.** Percentage of high school students reporting lifetime asthma, by selected characteristics, Illinois vs. United States, 2011



Source: U.S. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States 2011. MMWR 2012; 61(SS-4):1-162.

**Figure 22.** Percentage of high school students reporting current asthma, by selected characteristics, Illinois vs. United States, 2011



Source: U.S. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States 2011. MMWR 2012; 61(SS-4):1-162.

Note: White and black students are all non-Hispanic. Students identified as Hispanic might be of any race.

- Fewer high school students in Illinois reported having lifetime asthma (20.7%) compared to the United States (23.0%).

- Among Illinois high school students, there were a significantly higher percentage of black students reporting lifetime asthma (26.1%) compared to white students (19.5%).

- Fewer high school students in Illinois reported having current asthma (9.8%) compared to the United States (11.9%).

- Among Illinois high school students, there were a higher percentage of white students reporting current asthma (12.2%) compared to black and Hispanic students (8.3% and 9.5% respectively).

Certain behaviors and lifestyle choices may increase the chance individuals with asthma experience asthma episodes or exacerbations. However, a single behavior may not explain why a person with asthma will experience an episode.

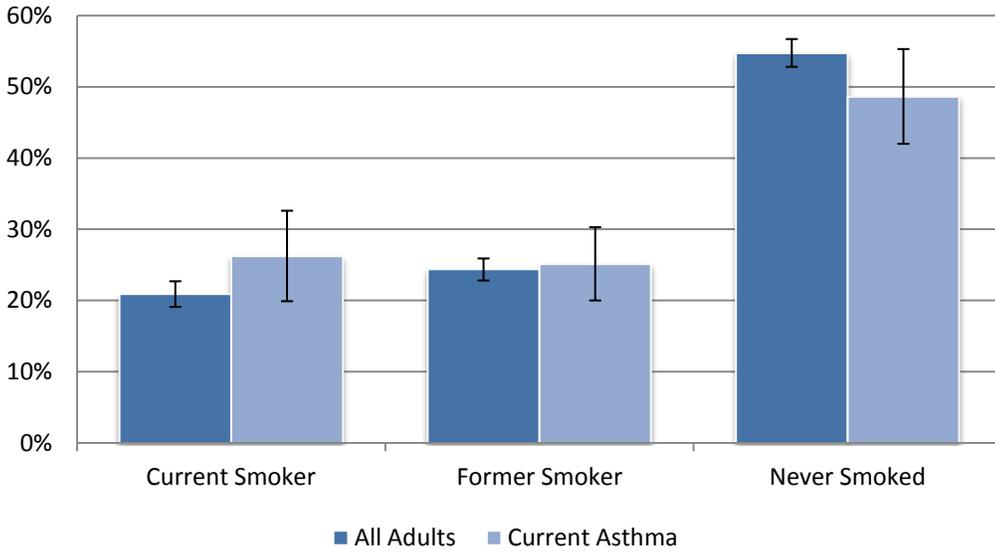
Smoking is a lifestyle choice that is harmful to everyone, especially people with asthma. Studies have shown smoking in adults with asthma leads to accelerated lung function decline, increased health care use and increased asthma severity.<sup>2</sup> It also has been shown adults with asthma who smoke have less control of their asthma. In addition, first and secondhand cigarette smoke exposure is an established risk factor for developing asthma.<sup>2</sup>

Epidemiological data indicates obesity increases the prevalence and incidence of asthma. Asthma in obese people is more difficult to control,<sup>3-6</sup> and is associated with worse quality of life and more health-care resources than non-obese people with asthma. Obese patients with asthma experience more symptoms and increased morbidity compared with non-obese asthma patients. Children with high body weight, either at birth or later in childhood, are at increased risk for future asthma.<sup>7</sup>

Being physically inactive is an important behavior, because it is potentially modifiable and there is, therefore, an opportunity for prevention. Several studies have shown training improves cardiopulmonary fitness, asthma symptoms and quality of life in asthmatic subjects.<sup>8</sup> This evidence suggests training and high levels of physical activity play a role in the course and severity of asthma.<sup>9</sup> The available evidence indicates physical activity is a possible protective factor against asthma development.<sup>9</sup>

Modifiable behaviors that can worsen asthma for adult asthma are monitored through the BRFSS.

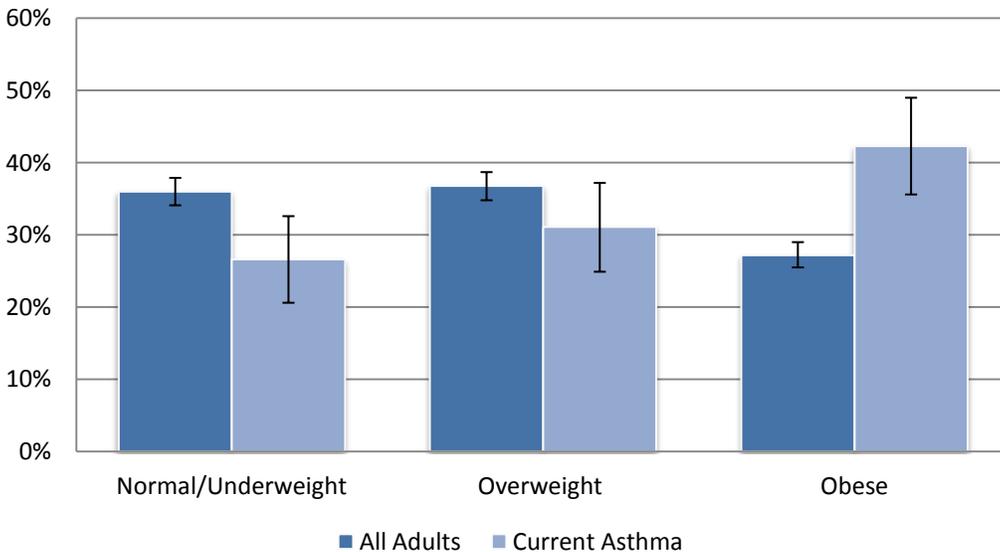
**Figure 23.** Smoking status of adults: Current asthma vs. all adults, Illinois, 2011



Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

- More adults with current asthma were current smokers (26.2%) than all adults (20.9%).
- Fewer adults with current asthma had never smoked (48.6%) compared to all adults (54.7%).

**Figure 24.** Weight status of adults: Current asthma vs. all adults, Illinois, 2011

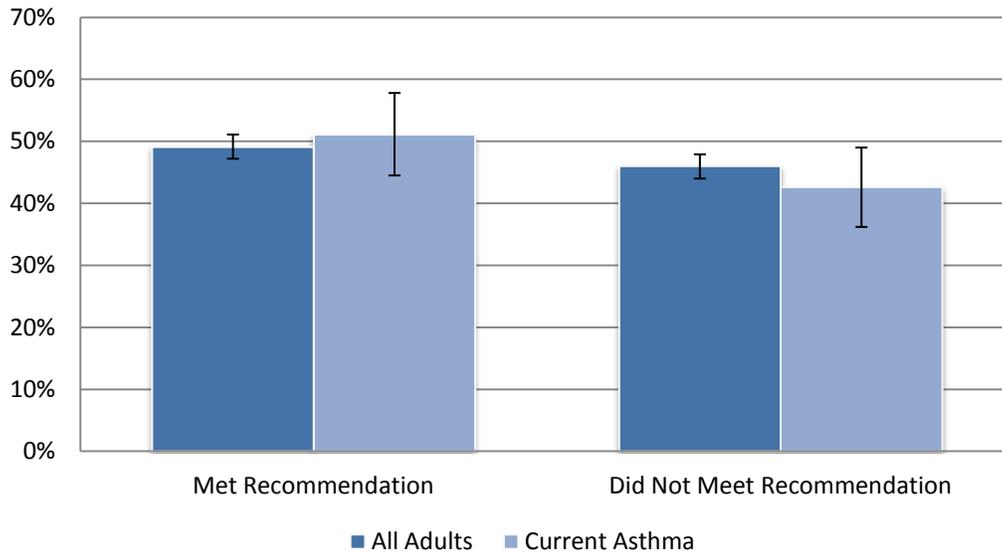


Note: Normal/Underweight: Body Mass Index (BMI) <25  
 Overweight: BMI ≥ 25 and <30  
 Obese: BMI ≥30

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

- Significantly fewer adults with current asthma were normal/underweight (26.6%) when compared to all adults (36.0%).
- Fewer adults with current asthma were overweight (31.1%) when compared to all adults (36.8%).
- Adults with current asthma had a significantly higher percentage of being obese (42.3%) when compared to all adults (27.2%).

**Figure 25.** Physical activity status of adults: Current asthma vs. all adults, Illinois, 2011



Note: Met Recommendation: Meets aerobic and strengthening guidelines: 150 minutes (or vigorous equivalent minutes) of physical activity per week and performs muscle strengthening activities on two or more days per week.

Did Not Meet Recommendation: Did not meet the aerobic and strengthening guidelines.

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

- A higher percentage of adults with current asthma met recommended physical activity status (51.1%) than did not meet recommended physical activity status (42.6%).
- A lower percentage of adults with current asthma did not meet recommended physical activity status (42.6%) than all adults (46.0%).

Asthma can cause daily disruptions in the lives of adults and children living with the chronic condition. Nationally, nearly one in two children with asthma report missing at least one day of school each year because of asthma, three in five people with asthma limit their physical activity and nearly one in three adults with asthma report missing at least one day of work each year because of asthma<sup>1</sup>.

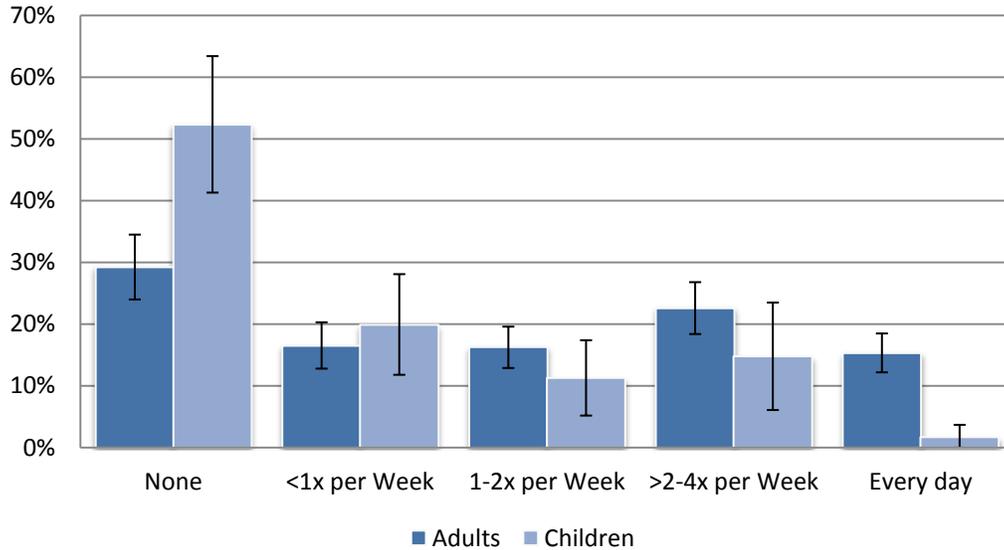
Asthma symptoms can occur any time, but often happen at night and in the morning. The most common asthma symptoms are:

- Coughing, especially at night, with exercise, or when laughing
- Trouble breathing
- A tight feeling in the chest
- Wheezing – a squeaky or whistling sound

Asthma symptoms affect an estimated 21.9 million Americans and are one of the leading causes of work and school absences<sup>10</sup>. Although no cure exists for asthma, effective treatments are available and as a result, most people with asthma live normal, productive lives.

Asthma symptoms, severity and lifestyle behaviors are monitored through the BRFSS, the ACBS and the YTS.

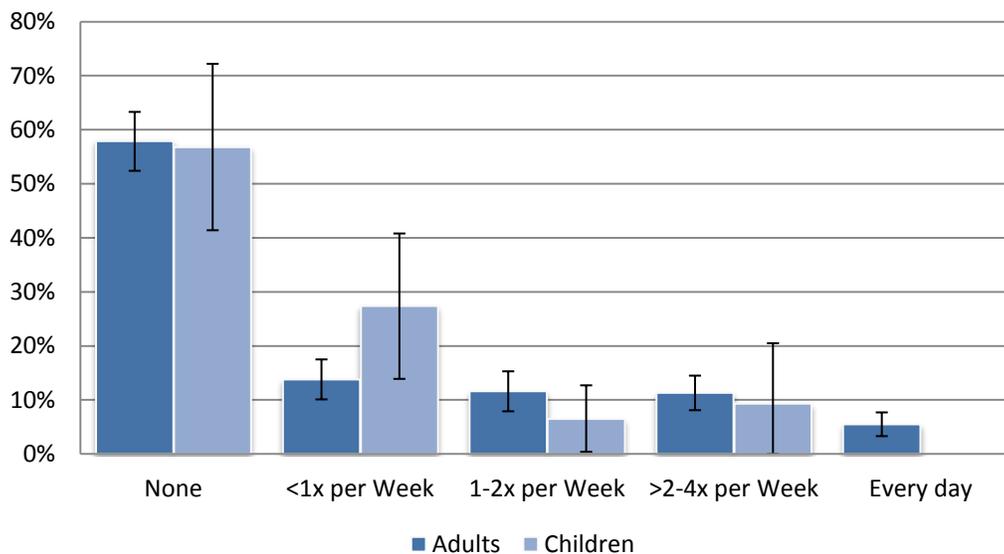
**Figure 26.** Percentage of adults and children with asthma reporting asthma symptoms in the past 30 days by frequency, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

- A significantly higher percentage of children with asthma reported no asthma symptoms in the past 30 days (52.3%) than adults with asthma (29.2%). About 15 percent of adults reported asthma symptoms every day.

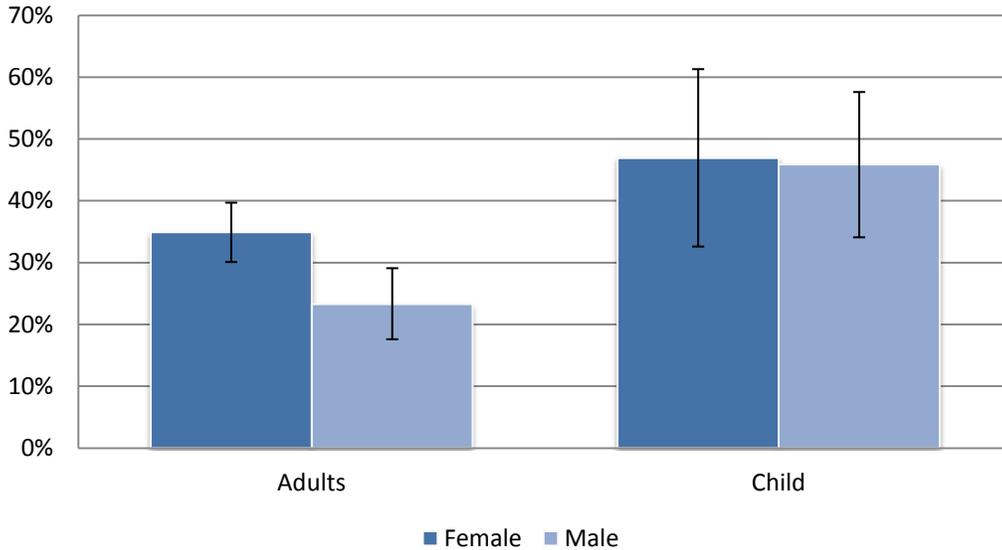
**Figure 27.** Percentage of adults and children with asthma having trouble sleeping in the past 30 days by number of days, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

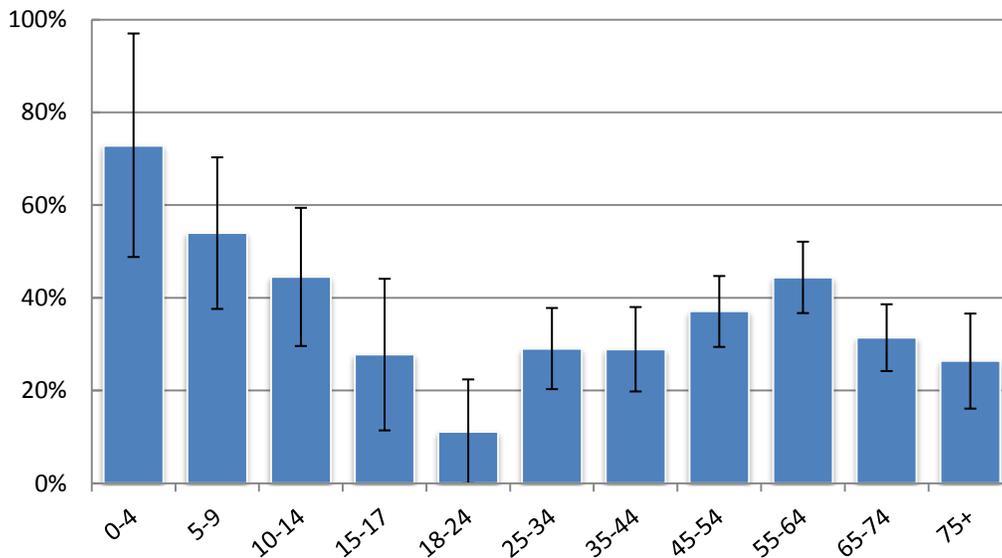
- The majority of adults and children report no trouble sleeping because of their asthma.
- A higher percentage of children with asthma reported trouble sleeping less than one day per week in the past 30 days (27.4%) than adults with asthma (13.8%).
- Adults report more frequent trouble sleeping because of their asthma than children. About 6 percent of adults reported trouble sleeping every day.

**Figure 28.** Percentage of adults and children with asthma having an asthma episode in the past 12 months by sex, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

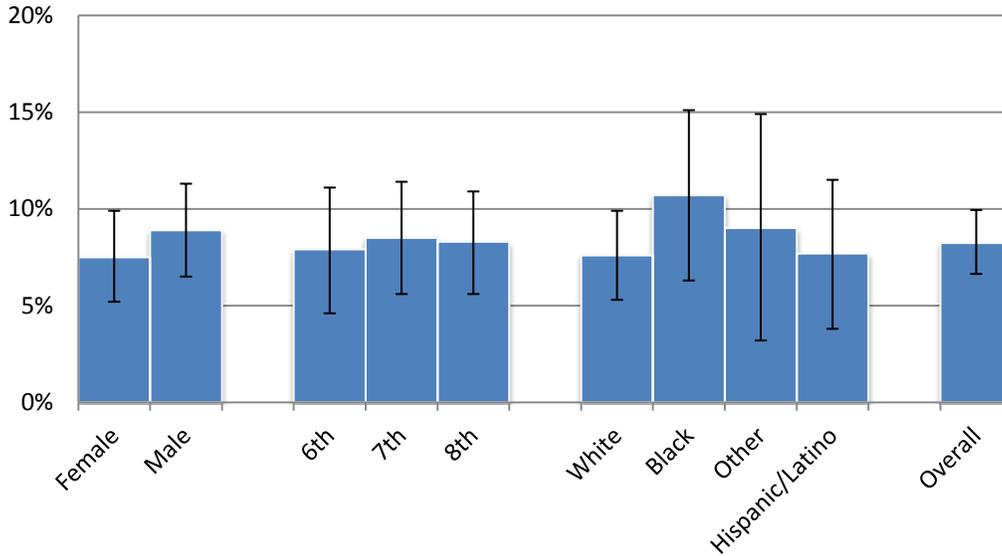
**Figure 29.** Data for Figure 22: People with asthma who experienced an asthma episode in the past year by age group, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

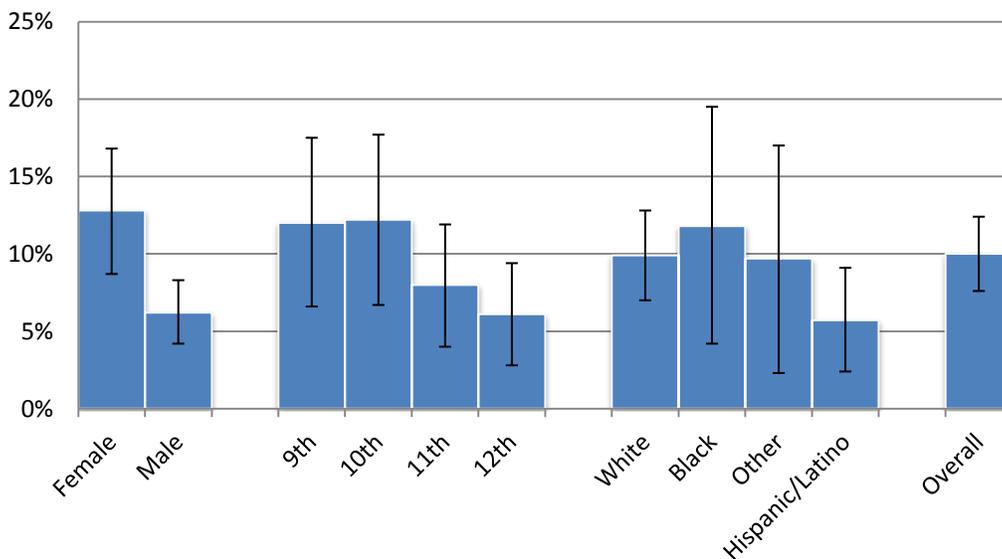
- A significantly higher percentage of female adults with asthma reported having an asthma episode within the past 12 months (34.9%) than male adults with asthma (23.3%).
- There was no difference in the percentage of female and male children with asthma who reported having an asthma episode in the past 12 months.
- A significantly higher percentage of children with asthma ages 0 to 4 reported having an asthma episode in the past year than people with asthma ages 15 to 54 and 65 and older.
- A significantly higher percentage of children with asthma younger than age 9 reported having an asthma episode in the past year than people with asthma ages 18 to 24 and ages 75 and above.

**Figure 30.** Percentage of middle school students with asthma experiencing an asthma episode by demographics, Illinois, 2010



Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

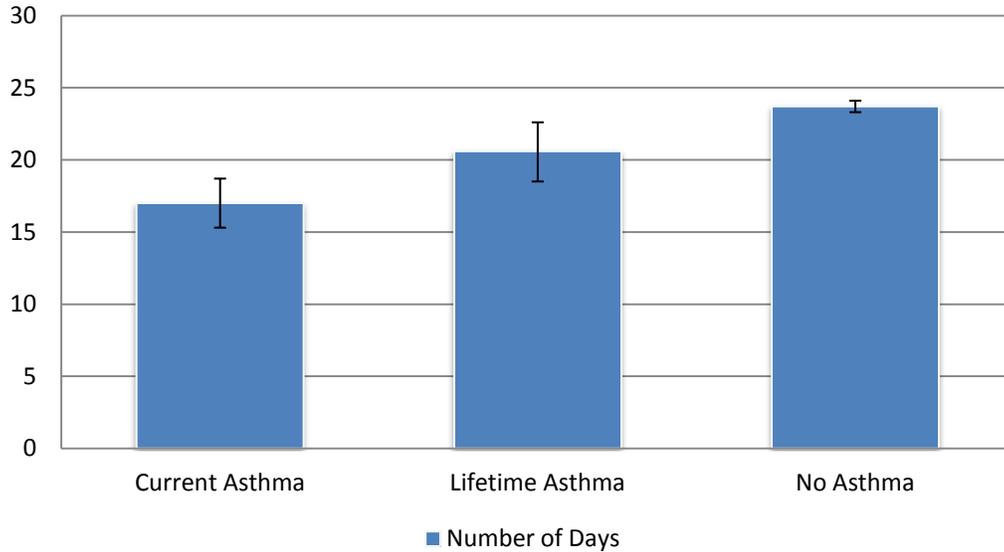
**Figure 31.** Percentage of high school students with asthma experiencing asthma episode by demographics, Illinois, 2010



Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010

- A higher percentage of male middle school students with asthma (8.9%) reported an asthma attack in the past 12 months than female (7.5%) middle school students.
- A significantly higher percentage of female high school students with asthma reported experiencing an asthma attack in the past 12 months (12.8%) than male high school students (6.2%).
- A higher percentage of black middle school and high school students with asthma reported an asthma attack in the past 12 months than white, Hispanic, and other middle and high school students.

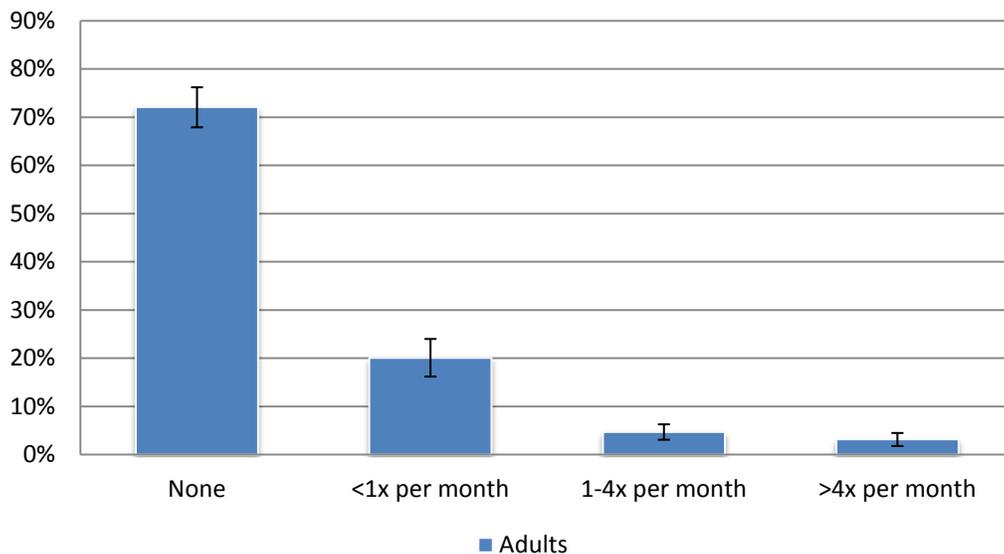
**Figure 32.** Number of healthy days in the past month by adult asthma status, Illinois, 2011



Healthy Day: Number of days that both physical health and mental health are good.  
 Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

- Adults without asthma reported a significantly higher number of healthy days in the past month (23.7) than adults with current asthma (17.0) and lifetime asthma (20.6).
- Adults with lifetime asthma reported a higher number of healthy days in the past month than adults with current asthma.

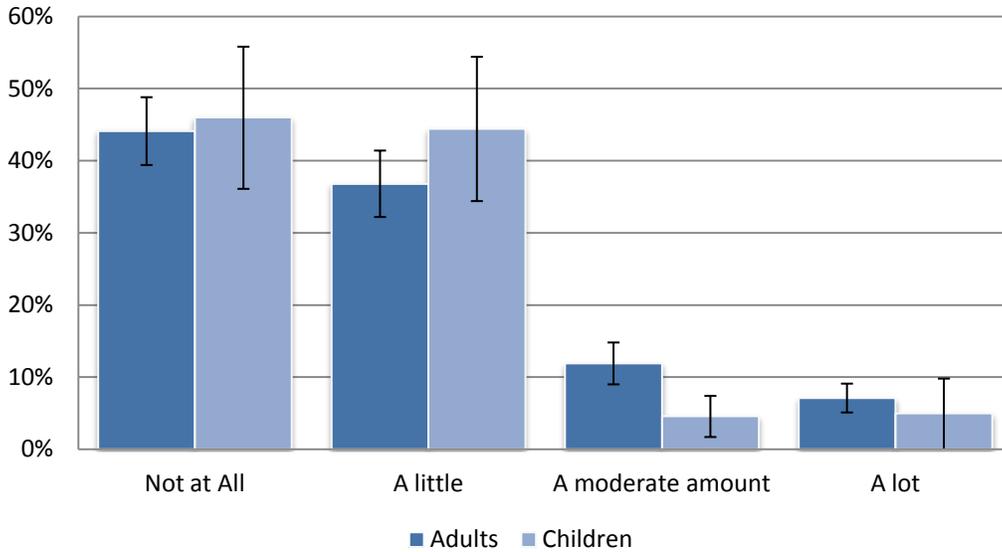
**Figure 33.** Percentage of adults with active asthma reporting a limitation of usual activities due to asthma in the past 12 months by number of days, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010

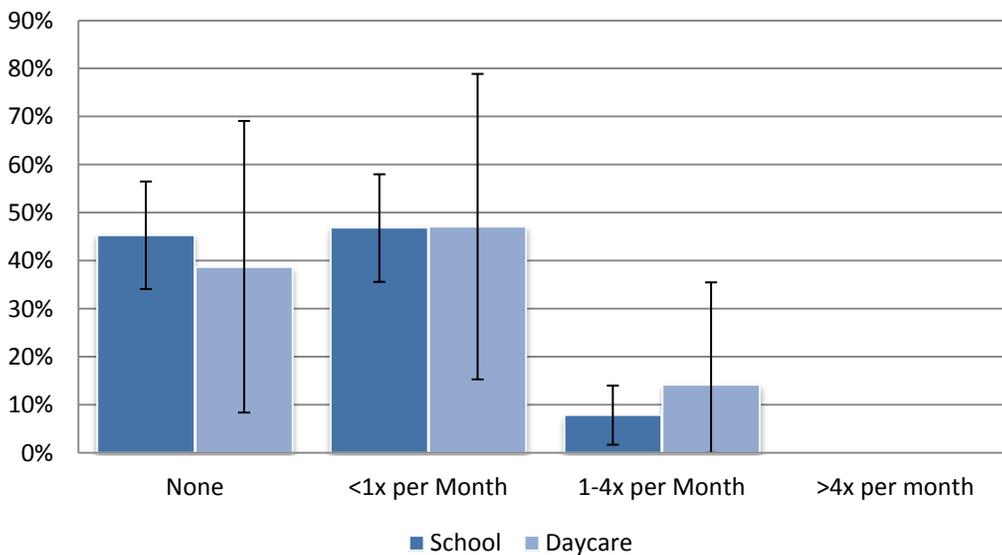
- A significantly higher number of adults with active asthma reported having zero or less than one day of limitation of usual activities due to asthma than two or more days of limitation of usual activities due to asthma in the past 12 months.

**Figure 34.** Percentage of adults with active asthma reporting limitation of usual activities due to asthma in the past 12 months by amount, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

**Figure 35.** Percentage of children with active asthma who missed school/daycare in past 12 months due to asthma by number of days, Illinois, 2007-2009



Source: Child Asthma Callback Survey, 2007-2009

- The majority of children and adults with active asthma reported no or a little limitation of usual activities due to asthma in the past 12 months.
- A significantly higher percentage of adults with active asthma reported a moderate amount of limitation of usual activities due to asthma in the past 12 months (11.9%) than children with active asthma (4.6%) reported.

- The majority of children with active asthma did not miss any days or less than one day per month of school or daycare.
- A significantly lower percentage of children with active asthma reported missing school (7.9%) or daycare (14.2%) two or more days per month.

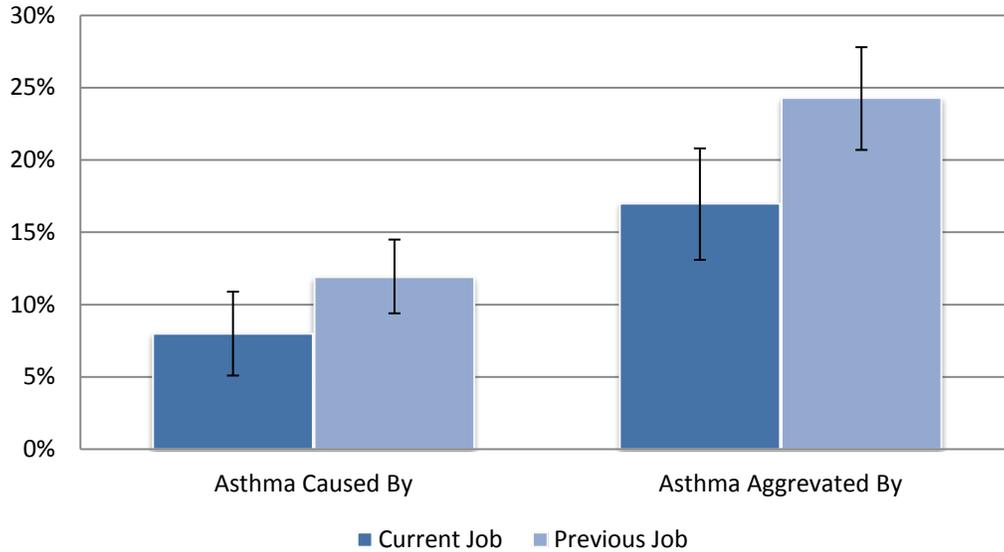
Work-related asthma (WRA), includes work-exacerbated asthma (preexisting or concurrent asthma worsened by factors related to the workplace environment) and occupational asthma (new onset asthma attributed to the workplace environment).<sup>11, 12</sup> WRA is a preventable occupational lung disease associated with serious adverse health and socioeconomic outcomes.<sup>11, 12</sup> Approximately 5 to 15 percent of adult onset asthma is thought to be occupational asthma.<sup>13</sup> WRA appears to be slow to resolve, and may worsen irrespective of subsequent exposure status. Patients removed from the workplace rarely experience complete resolution, may require medications and experience continued airflow limitation<sup>13</sup>.

More than 250 causes for occupational exposures leading to asthma have been identified. The most commonly identified exposures are di-isocyanates, flour, wood dust and latex. Estimates show around 11 percent of workers exposed to di-isocyanates, which are used in the production of coatings, adhesives and foams, will develop bronchial hyper-reactivity.<sup>13</sup> While many causes for occupational asthma have been identified, there are still many sensitizers and irritants that have not been well characterized or identified.

Nationally, WRA was the cause for roughly one in 10 adults who were ever employed with current asthma. This represents an estimated annual average of 1.4 million adults nationally with WRA.<sup>14</sup> Proportions of WRA were highest among persons aged 45–64 years (12.7%), blacks (12.5%), and persons of other races (11.8%).<sup>14</sup>

BRFSS and ACBS data for 2007 through 2010 was combined to estimate the burden of work-related asthma in Illinois.

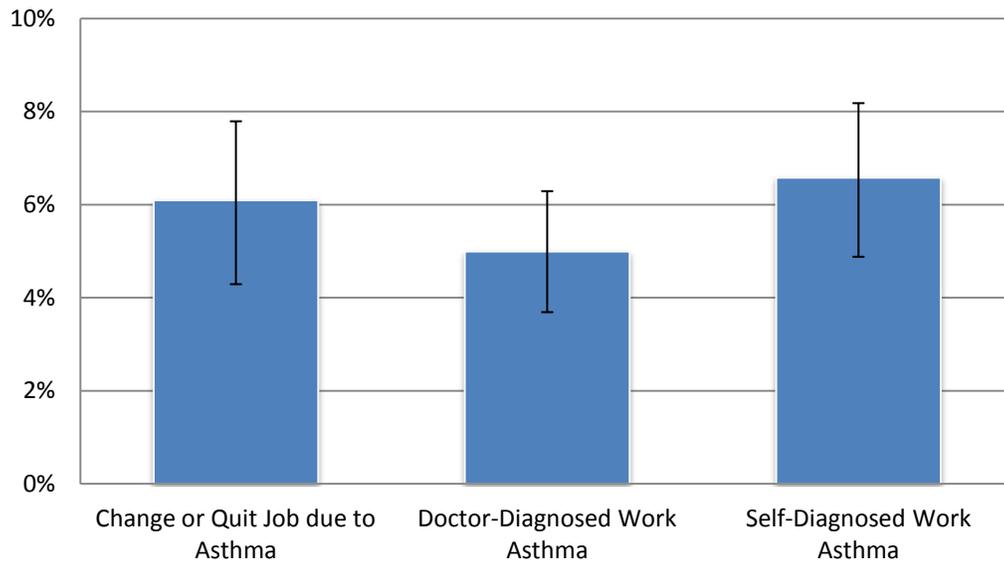
**Figure 36.** Percentage of adults with active asthma and work-related asthma, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010

- More adults with active asthma reported their asthma was caused by their previous job (11.9%) compared to their current job (8.0%).
- More adults with active asthma reported their asthma was aggravated by their previous job (24.3%) compared to their current job (17.0%).

**Figure 37.** Percentage of adults with active asthma who have a relationship between asthma and their occupation, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010

- A total of 6 percent of adults with active asthma had to change or quit their job due to their asthma.
- More adults with active asthma have self-diagnosed work asthma (6.6%) compared to doctor-diagnosed work asthma (5.0%).

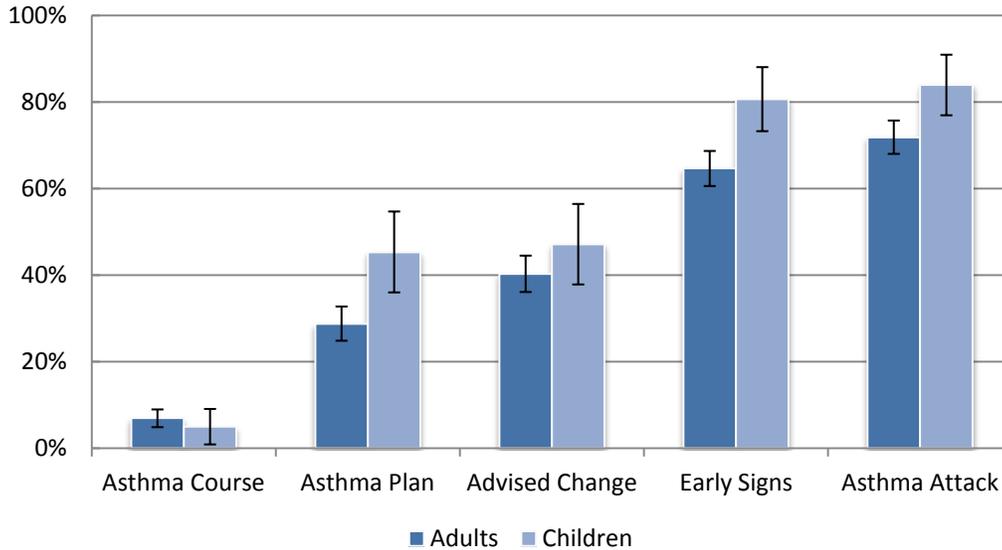
To understand the management of asthma, it is important to understand what activities patients engage in to control their asthma and what instructions doctors and other health professionals give to asthma patients. This can be looked at in terms of various asthma care activities. These activities range from “having taken a course in asthma” to “having received instruction in the use of an inhaler.” ACBS is used to monitor these behaviors.

The National Asthma Education and Prevention Program of the National Heart, Lung, and Blood Institute Expert Panel Review-3 Guidelines states four components of care for the long-term management of asthma assessment and monitoring, education, control environmental factors, and comorbid conditions and medications.<sup>15</sup> The assessment and monitoring component recommends clinical care that assesses asthma severity to initiate therapy, assesses asthma control to monitor and adjust therapy, and to schedule follow up care. The education component includes providing self-management education, developing a written asthma action plan with the patient and integrating education into every visit a patient has with a health care professional. To help control environmental factors and comorbid conditions, the clinical activities are to recommend measures to control exposure to allergens, to pollutants or to irritants that make asthma worse, and to treat comorbid conditions. The medication component recommends selecting medication and delivery methods that meet the patient’s needs and circumstances.

### Asthma management questions

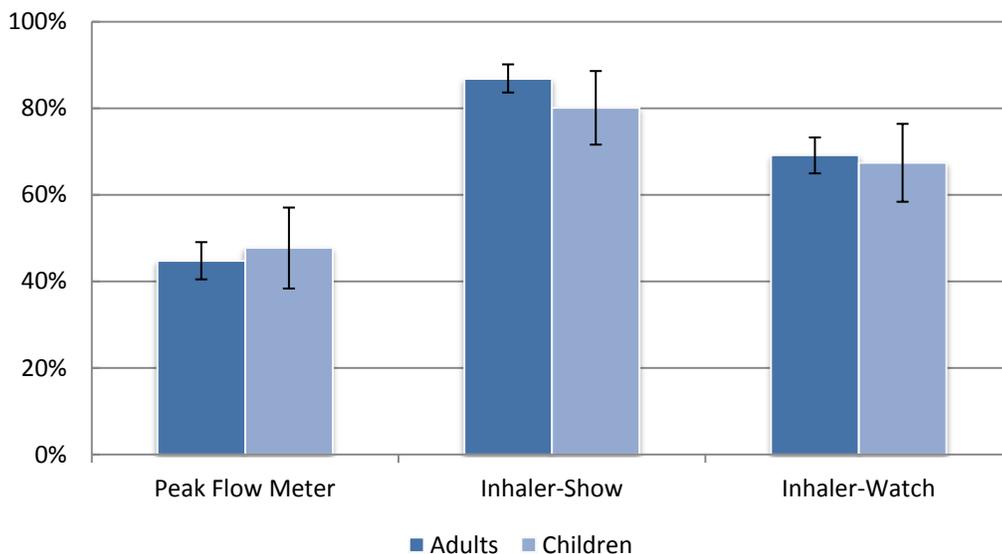
Asthma Course	{Have you/Has the child's parent or guardian} ever taken a course or class on how to manage {your/his/her} asthma?
Asthma Plan	Has a doctor or other health professional ever given {you/the child's parent or guardian} an asthma management plan?
Advised Change	Has a health professional ever advised you to change things in {your/the child's} home, school or work to improve {your/the child's} asthma?
Peak Flow Meter	Has a doctor or other health professional ever taught {you/the child or child's parent or guardian} how to use a peak flow meter to adjust daily medications?
Early Signs	Has a doctor or other health professional ever taught {you/the child or child's parent or guardian} how to recognize early signs or symptoms of an asthma episode?
Asthma Attack	Has a doctor or other health professional ever taught {you/the child or the child's parent or guardian} what to do during an asthma episode or attack?
Inhaler-show	Did a health professional ever instruct {you/the child or the child's parent or guardian} on how to use an inhaler?
Inhaler-watch	Did a health professional ever watch {you/the child or the child's parent or guardian} use an inhaler?

**Figure 38.** Percentage of adults and children reporting participation in various asthma care activities, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2010

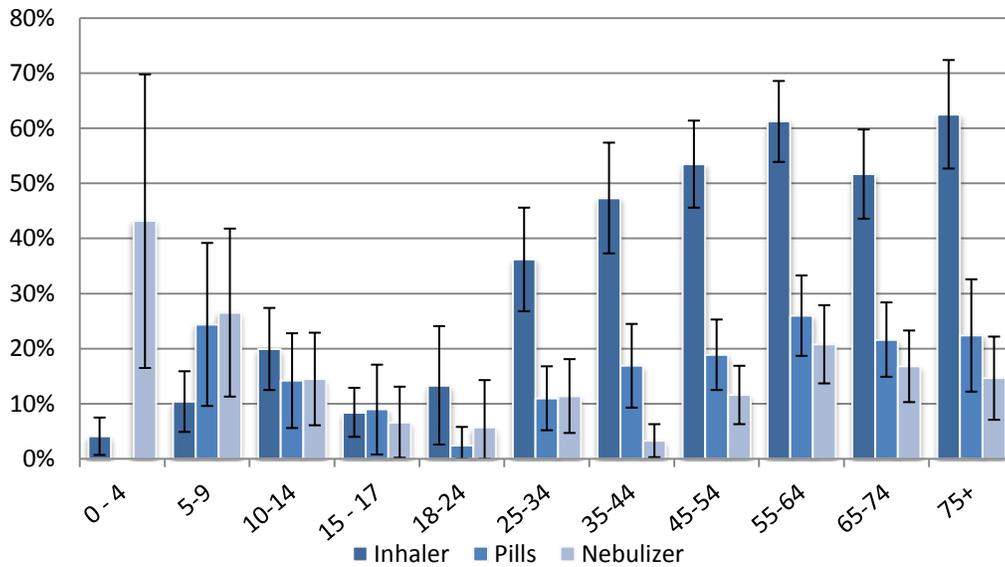
**Figure 39.** Percentage of adults and children reporting participation in asthma medication education activities, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2010

- The most frequently reported asthma care activities reported by adults and children were being taught the early signs of an asthma episode (64.7% and 80.6%) and what to do during an asthma attack (71.8% and 83.9%).
- Significantly fewer adults and children had taken an asthma course (7.0% and 5.0%), were given an asthma plan (28.7% and 45.3%) or advised to change their environment to help control their asthma (40.3% and 47.1%).
- Most adults and children had been shown how to use an inhaler (86.8% and 80.1%), while fewer were observed using an inhaler (69.2% and 67.4%).
- Significantly fewer adults and children were instructed on how to use a peak flow meter to adjust their asthma medications (44.8% and 47.1%).

**Figure 40.** Percent reporting using different types of medication by age group, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2010

- Nebulizer use is most prevalent in the youth age groups, while inhaler use is most prevalent in the adult age groups.

The term “environment” can have many meanings. In this section, environment refers to the surroundings in which the person with asthma normally lives or works, and which they may or may not be able to influence or control.

Many environmental factors have been shown to trigger asthma attacks in people with asthma. Triggers include secondhand smoke, mold, pests, dust mites and other allergens. Secondhand smoke is a common trigger and can increase the severity of asthma attacks by irritating the bronchial passages of people with asthma. In addition, it has been shown to be a risk factor for the development of asthma in preschool aged children. Triggers found in the home were broken down into three categories: infrastructure, modifiable home behaviors and allergen control measures. The Illinois Adult Tobacco Survey and the Illinois Youth Tobacco Survey monitor exposure to secondhand smoke in adults and youth. The ACBS is used to monitor exposure to other triggers found in the home.

### **Infrastructure triggers – may be difficult to change**

Bedroom Carpeted	Do you have carpeting or rugs in your bedroom?
Gas Cooking	Is gas used for cooking?
Fireplace	Is a wood burning fireplace or wood burning stove used in your home?
Gas Appliance	Are unvented gas logs, unvented gas fireplace or unvented gas stove used in your home?

### **Modifiable home behaviors—changes are possible**

Smoke in Home	In the past week, has anyone smoked inside your home?
Mold in Home	In the past 30 days, has anyone seen or smelled mold or a musty odor inside your home? Do not include mold on food.
Indoor Pets	Does your household have pets, such as dogs, cats, hamsters, birds or other feathered or furry pets, that spend time indoors?
Bedroom Pets	Are pets allowed in your bedroom?
Cockroach in Home	In the past 30 days, has anyone seen a cockroach inside your home?
Mice or Rats in Home	In the past 30 days, has anyone seen mice or rats inside your home? Do not include mice or rats kept as pets

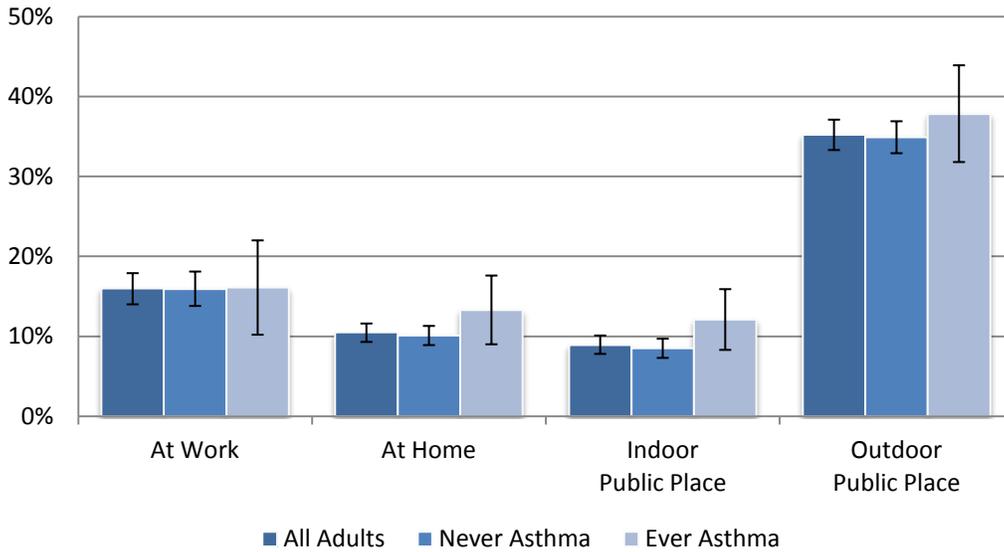
**Allergen Control Measures - interventions that could be implemented**

Air Cleaner	Is an air cleaner or purifier regularly used inside your home?
Dehumidifier	Is a dehumidifier regularly used to reduce moisture inside your home?
Kitchen Fan	Is an exhaust fan that vents to the outside used regularly when cooking in your kitchen?
Bathroom Fan	In your bathroom, do you regularly use an exhaust fan that vents to the outside?
Mattress Cover	Do you use a mattress cover made especially for controlling dust mites?
Pillow Cover	Do you use a pillow cover made especially for controlling dust mites?

**Triggers in Schools and Daycares**

Pets	Are there any pets, such as dogs, cats, hamsters, birds or other feathered or furry pets, in his/her classroom/room?
Mold	Are you aware of any mold problems in your child's school/daycare?
Medication Allowed	Does the school he/she goes to allow children with asthma to carry their medication with them while at school?
Smoking Not Allowed	Is smoking allowed at his/her daycare?

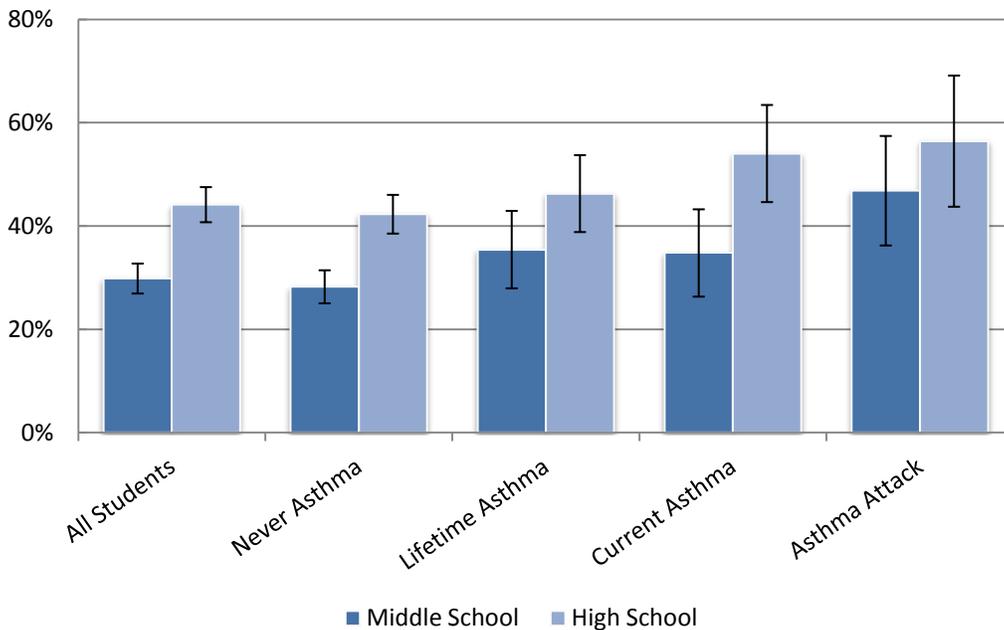
**Figure 41.** Adults exposed to secondhand smoke by asthma status, Illinois, 2011



Source: Illinois Adult Tobacco Survey, Illinois Department of Public Health, 2011

- Outdoor public places are the main source of secondhand smoke exposure. About 38 percent of adults with lifetime asthma reported secondhand smoke exposure in an outdoor public place.

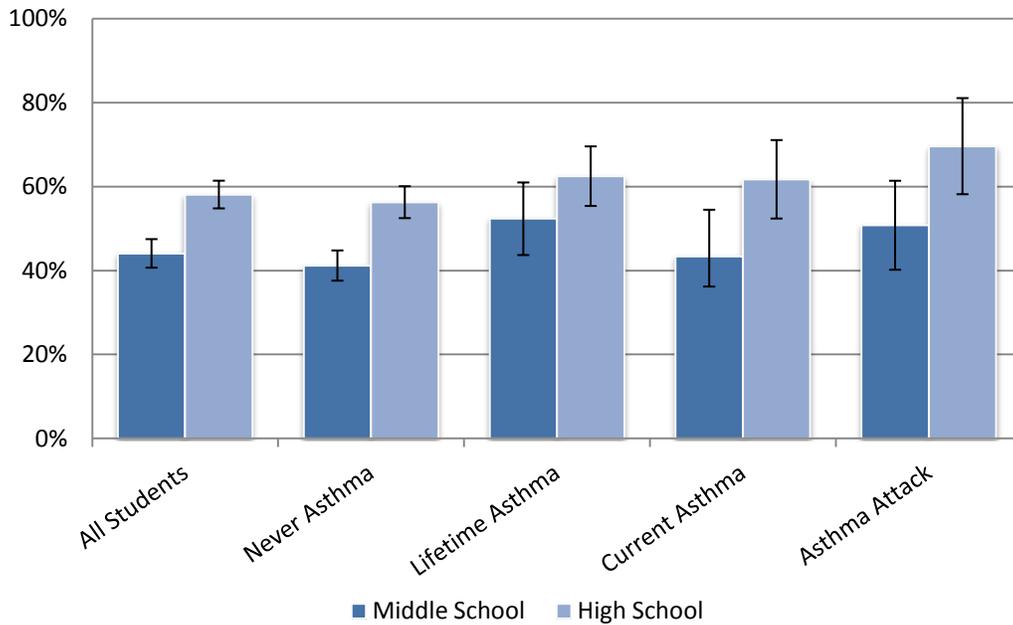
**Figure 42.** Youth in car with someone smoking by asthma status, Illinois, 2010



Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

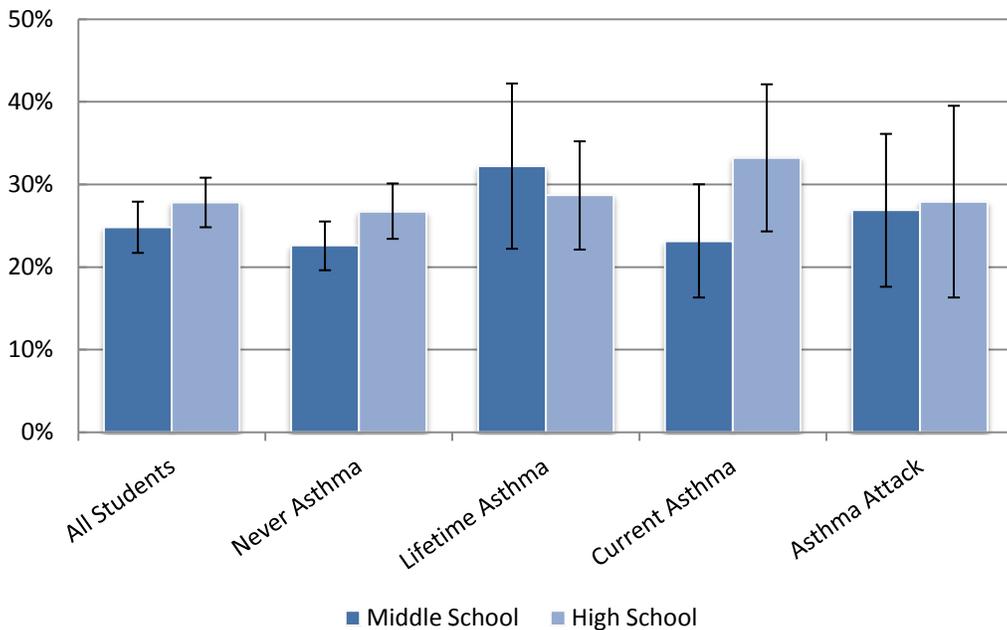
- Significantly more high school students (44.1%) reported being in a car with someone smoking during the past seven days than middle school students (29.8%). This significant difference also was true for students with never asthma and students with current asthma.

**Figure 43.** Youth in same room as someone smoking by asthma status, Illinois, 2010



Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

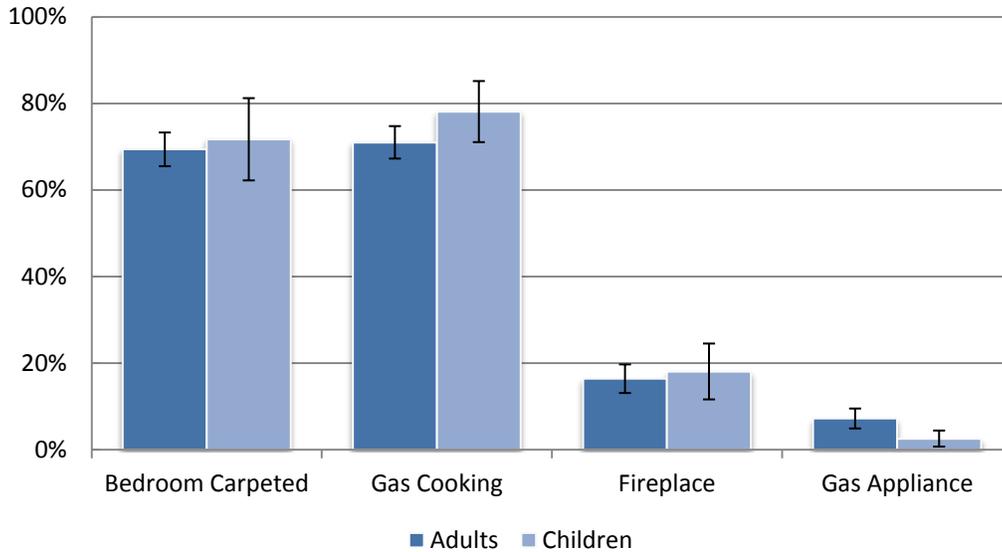
**Figure 44.** Smoking allowed in home of youth by asthma status, Illinois, 2010



Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

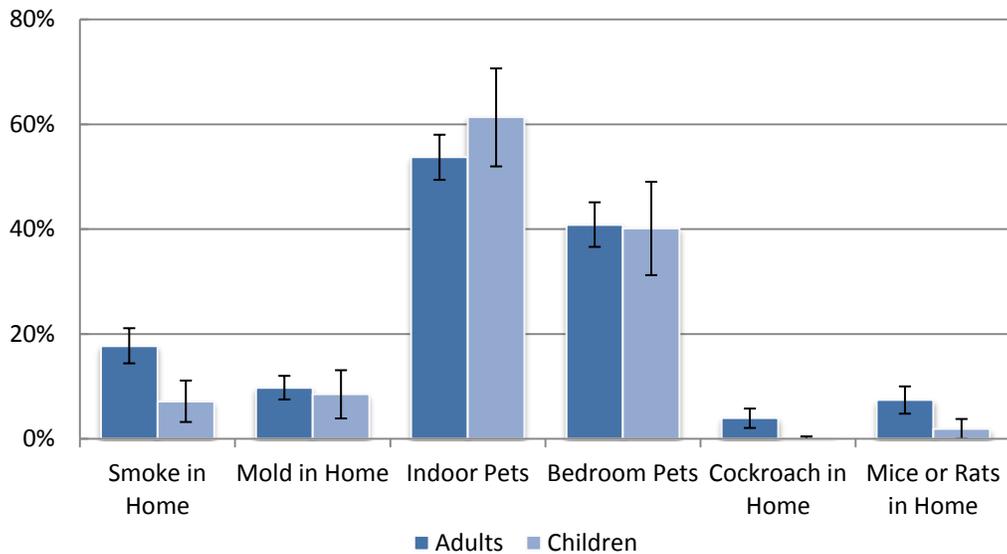
- About 44 percent of middle school and 58 percent of high school students have been in the same room as someone who was smoking during the past seven days.
- About 70 percent of high school students and 51 percent of middle school students who have had an asthma attack reported they had been in the same room as someone smoking during the past seven days.
- More students with lifetime or current asthma live in homes where smoking is allowed in the home than students who have never had asthma.

**Figure 45.** Percentage of adults and children reporting infrastructure environmental triggers, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

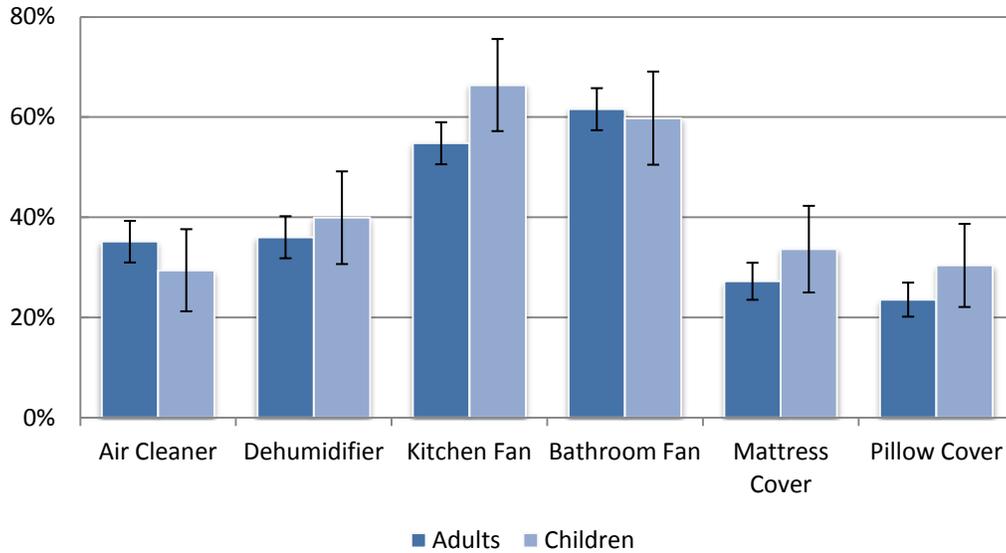
**Figure 46.** Percentage of adults and children reporting modifiable home environmental triggers, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

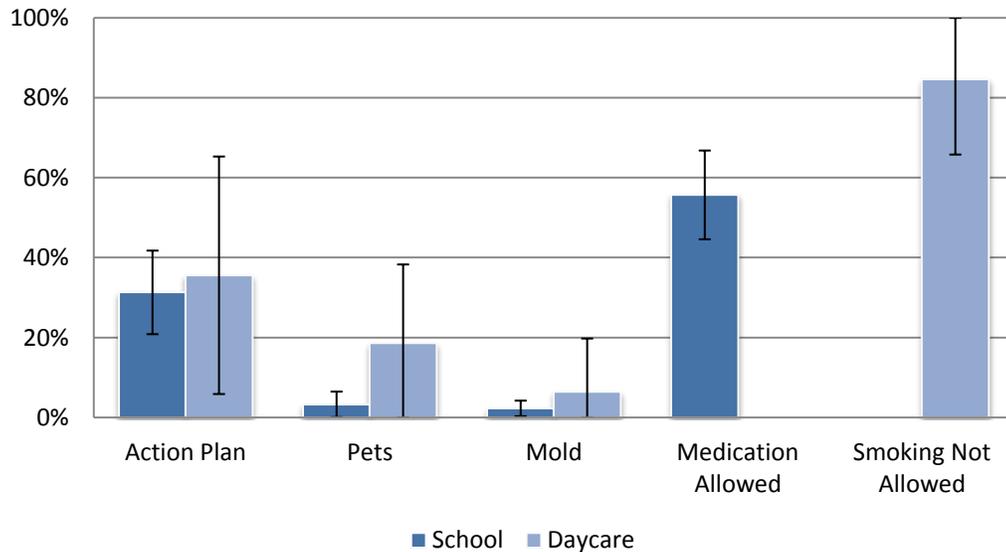
- More than two thirds of adults and children with asthma have carpeting or rugs in their bedroom and have homes where gas is used for cooking.
- Wood burning fireplaces or stoves and unvented gas appliances are less prevalent in the homes of adults and children with asthma.
- Significantly more adults (17.7%) than children (7.1%) with asthma reported that someone smoked inside their home within the past week.
- About half to two thirds of adults and children have pets that spend time indoors. About 40 percent have pets that spend time in the bedroom.
- Less than 10 percent of adults and children with asthma report mold, cockroaches, or mice and rats in the home.

**Figure 47.** Percentage of adults and children reporting allergen control measures, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

**Figure 48.** School and daycare asthma management and environmental triggers, Illinois, 2007-2009



Source: Child Asthma Callback Survey, 2007-2009

- Less than half of adults and children with asthma, report regular use of an air cleaner or purifier, regular use of a dehumidifier, or use of a mattress or pillow cover for dust mites. Significantly more adults and children do report the use of exhaust fans in the kitchen and bedroom.
- About a third of children with asthma have an asthma action plan on file at school or daycare.
- A small percentage of youth attend a daycare or school where feathered or furry pets are kept in the classroom or there are reports of a mold problem.
- About 56 percent of children with asthma are allowed to carry their medication with them while at school.
- The majority of youth attend daycares where smoking is not allowed.

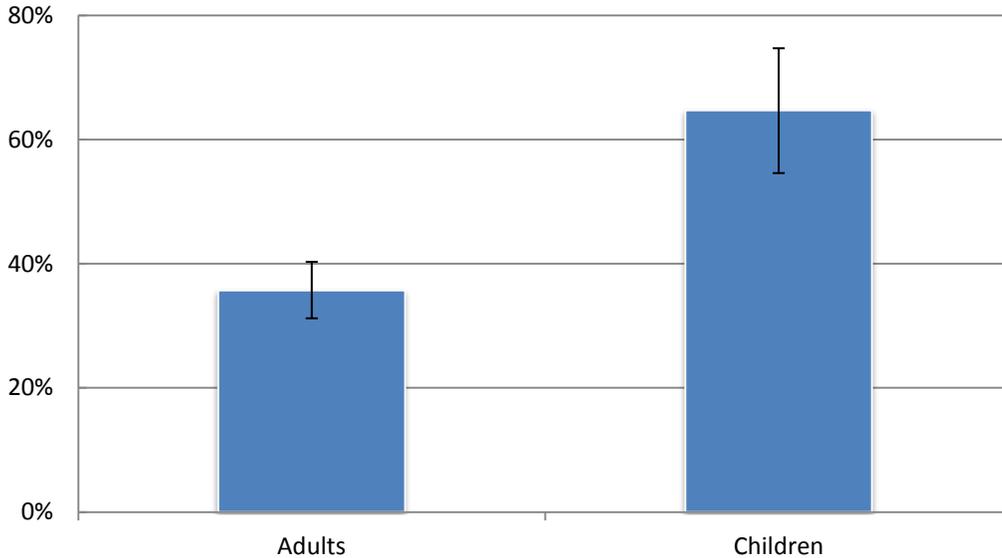
Routine health care for youth and adults with asthma is important to help them achieve and maintain control of their asthma. Access to a health care provider is needed for effective clinical management of asthma. Also, proper asthma control may decrease visits to hospital emergency departments (EDs).

The National Asthma Education and Prevention Program of the National Heart, Lung, and Blood Institute Expert Panel Review-3 Guidelines recommend people with asthma have regular outpatient visits to manage their disease, and people with asthma receive an annual influenza vaccine and a lifetime pneumococcal vaccine.<sup>15</sup>

People with asthma experience barriers to health care. Nationally, one in four black adults and one in five Hispanic adults can't afford their asthma medicines.<sup>1</sup> Barriers to routine and primary care often result in utilization of the ED for routine care and treatment for exacerbations.

In 2009, there were 8.9 million asthma-related doctor visits and 1.9 million asthma-related emergency department visits in the United States.<sup>1</sup> Among adults with current asthma, the rate of health-care visits was higher among blacks (73 per 100) than among whites (60 per 100).<sup>16</sup> For both age groups, rates for physician office and outpatient clinic visits were higher among whites, whereas rates for ED visits and hospitalizations were higher among blacks.<sup>16</sup> Nationally, one in five children with asthma went to an ED for asthma related care in 2009.<sup>1</sup>

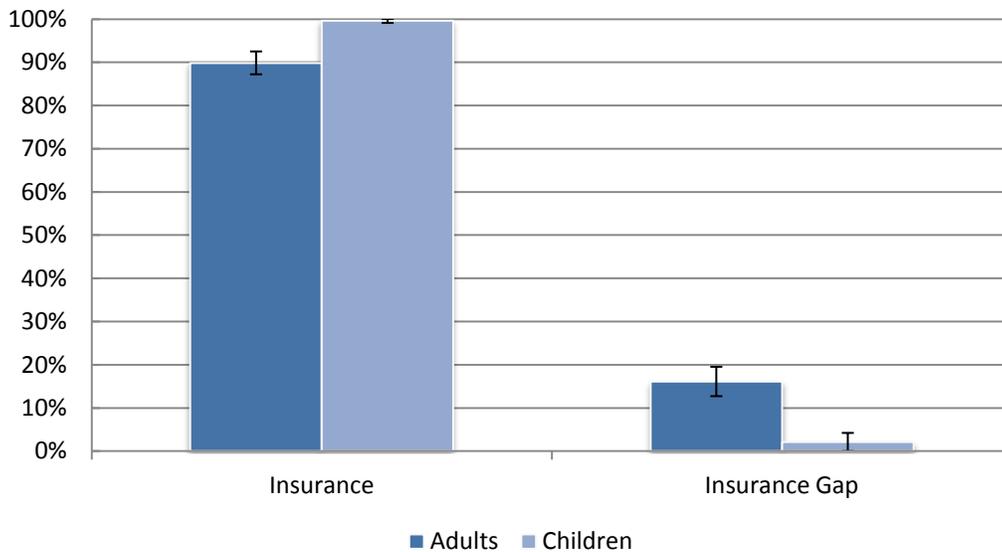
**Figure 49.** Percentage of adults and children with asthma with a routine checkup in the past 12 months, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

- Significantly more children (64.7%) than adults (35.7%) with asthma had a routine checkup in the past 12 months.

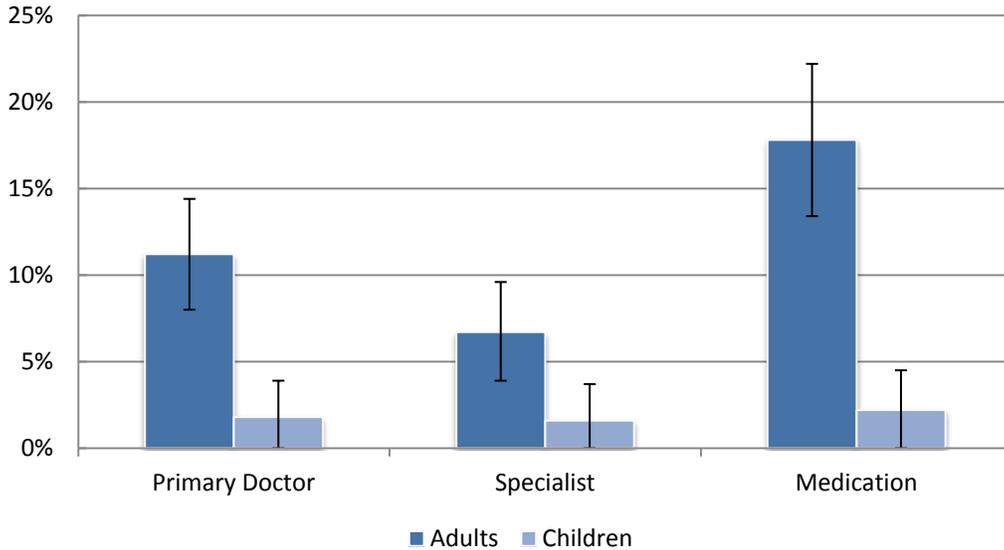
**Figure 50.** Insurance status of adults and children with asthma, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

- Significantly more children (99.6%) than adults (89.8%) had insurance.
- Significantly fewer children (2.1%) than adults (16.1%) had a gap in insurance or coverage in the past 12 months.

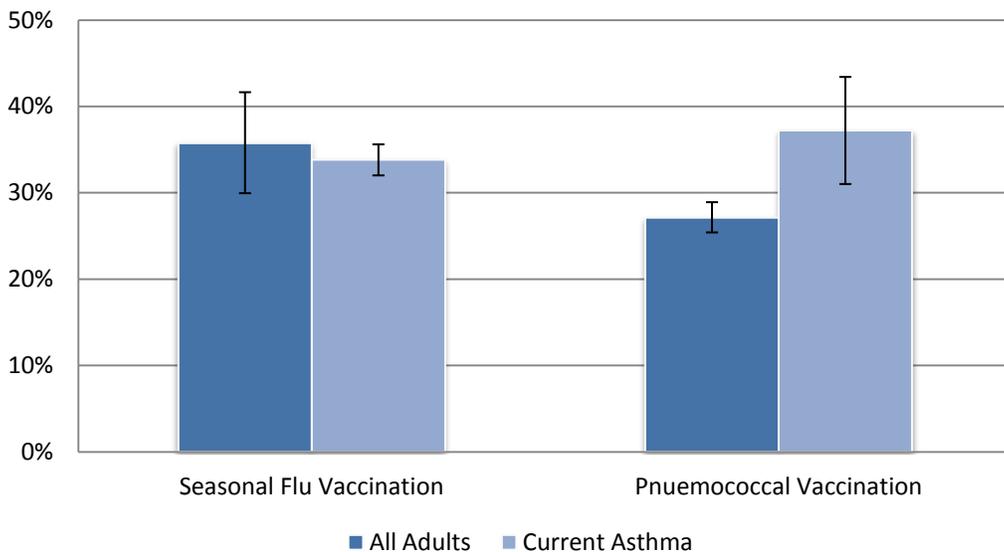
**Figure 51.** Percentage of adults and children with asthma that could not access health care due to cost in the past 12 months, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

- Significantly more adults than children could not see a primary doctor, specialist, or obtain medication due to cost.

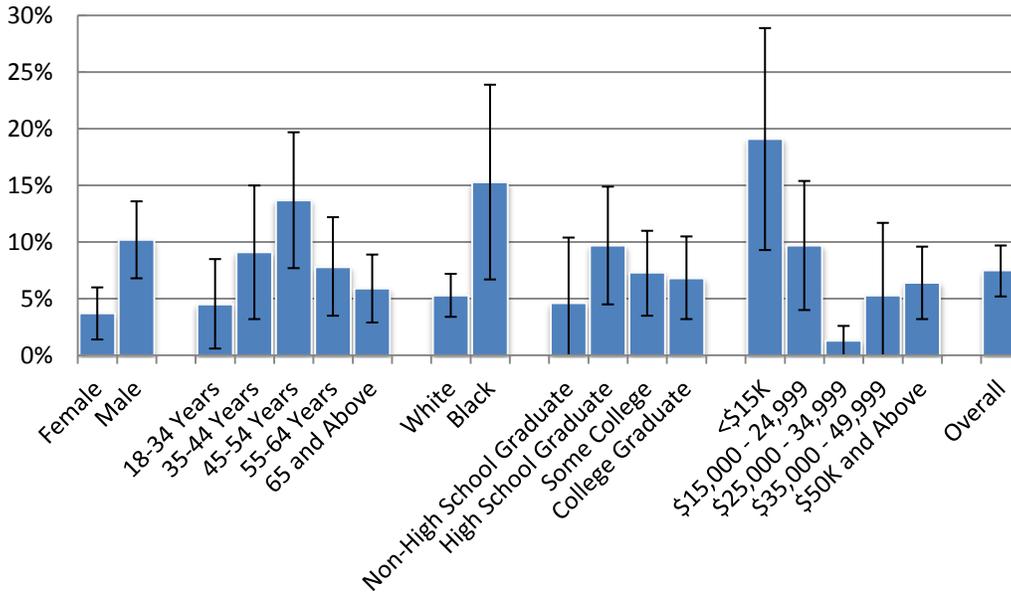
**Figure 52.** Percentage of adults receiving preventative vaccinations, Illinois, 2011



Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011

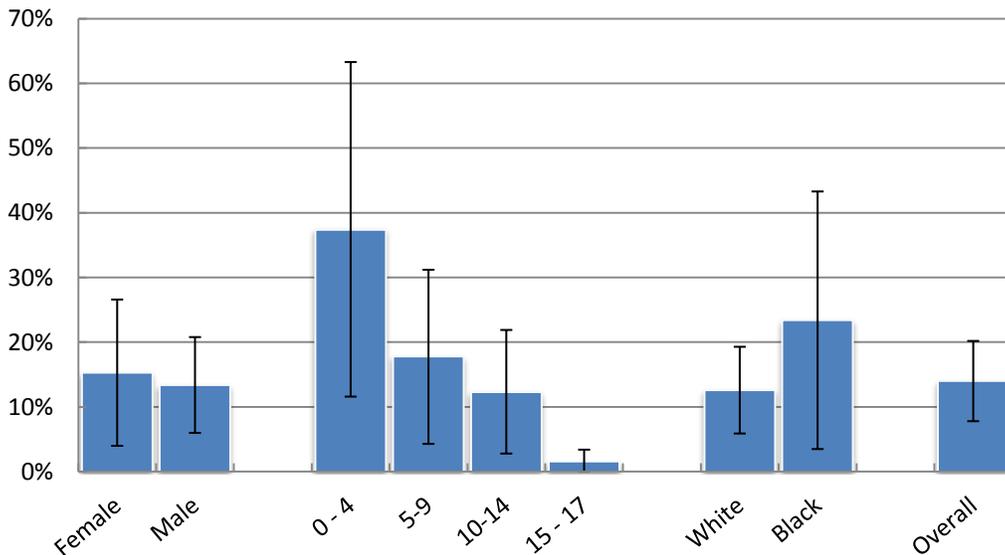
- About a third of all adults and adults with current asthma received the seasonal flu vaccination in the past 12 months.
- Significantly more adults with current asthma had ever received a pneumococcal vaccination when compared to all adults.

**Figure 53.** Percentage of adults reporting visiting hospital emergency department due to asthma in the past 12 months, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010

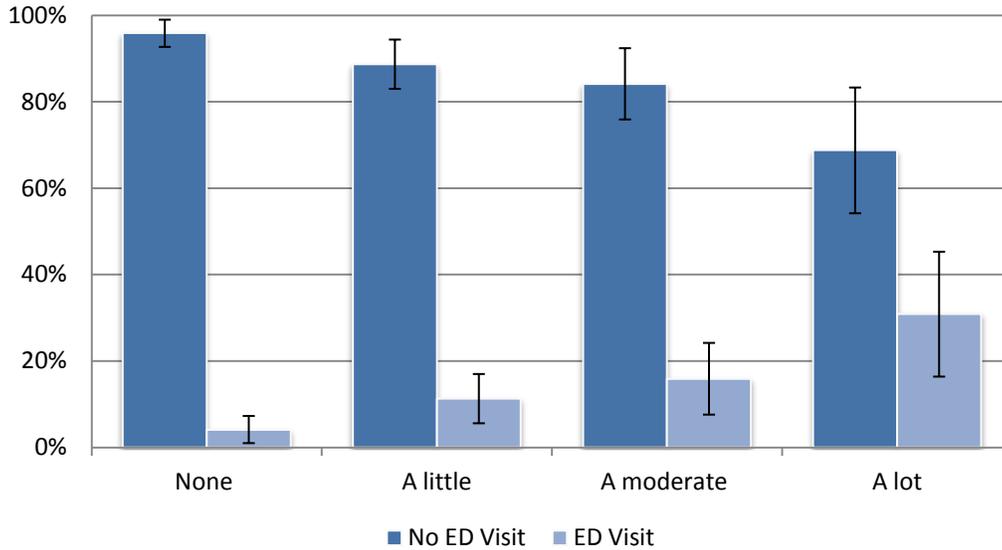
**Figure 54.** Percentage of children reporting visiting hospital emergency department due to asthma in the past 12 months, Illinois, 2007-2009



Source: Child Asthma Callback Survey, 2007-2009

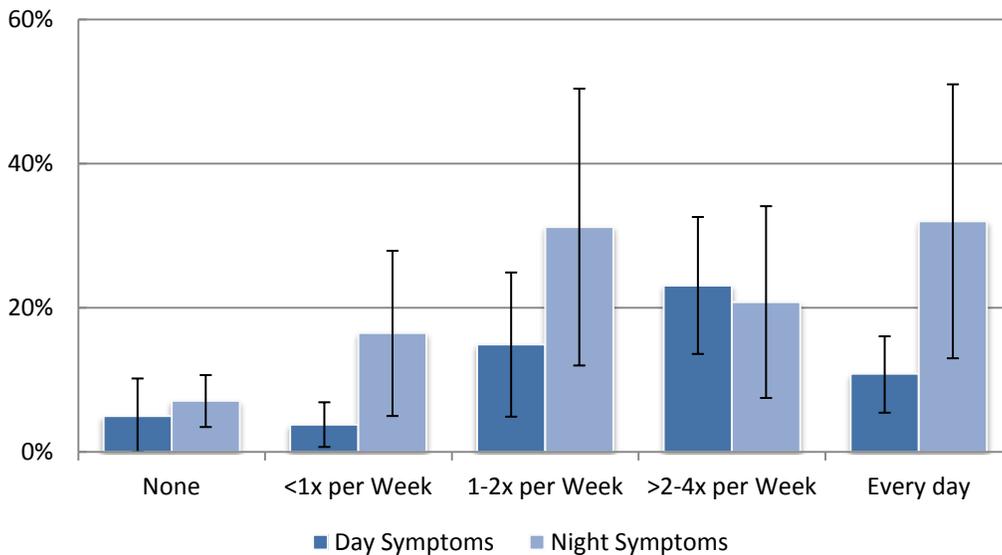
- Significantly more males (10.2%) reported visiting the ED due to asthma than females (3.7%).
- A higher percentage of adults aged 45 to 54 years reported visiting the ED due to asthma than other age groups.
- In the past 12 months, more blacks (15.3%) reported visiting the ED due to asthma than whites (5.3%).
- More adults with income <\$15,000 reported ED visitation due to asthma than higher income groups.
- About 15 percent of children had to visit the ED or urgent care because of his/her asthma in the past 12 months.
- Children visitation to the ED due to asthma decreased as age increased.
- Fewer white children visited the ED (12.6%) than black children (23.4%).

**Figure 55.** Percentage of adults visiting hospital emergency department in the past 12 months by degree of asthma activity limitation, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010

**Figure 56.** Percentage of adults visiting hospital emergency department in the past 12 months by asthma symptoms in past 30 days due to asthma, Illinois, 2007-2010



Source: Adult Asthma Callback Survey, 2007-2010

- Significantly fewer adults with no degree of activity limitation visited the ED or urgent care (4.1%) when compared to adults with a lot of degree of activity limitation (30.9%).

- As the degree of activity limitation increases, ED visits increase.

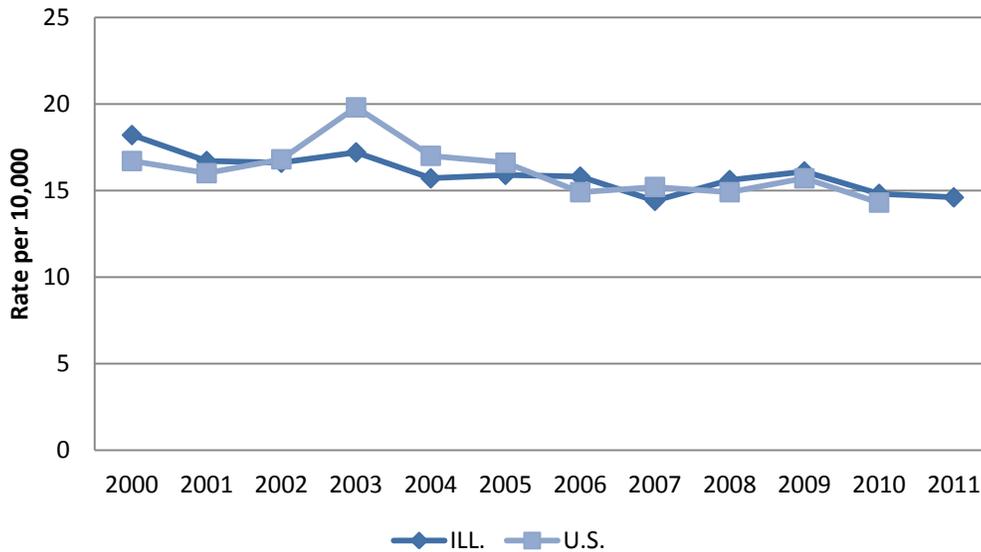
- Overall, more adults who reported night symptoms visited the ED or urgent care than adults who experienced day symptoms.

- Adults who reported day or night symptoms more frequently visited the ED or urgent care more than adults who did not experience day or night symptoms or symptoms less than one time per week.

Uncontrolled asthma or asthma attacks can lead to hospitalizations in adults and in children with asthma. Nationally, there were 479,300 asthma hospitalizations in 2009<sup>17</sup>. The hospitalization rate per 100 persons with asthma among black persons was between 1.9 and 2.5 times higher than the rate for white persons during each year from 2001 to 2009.<sup>17</sup> The asthma hospitalization rate has declined from 2001 to 2009 in the black and white population.<sup>17</sup>

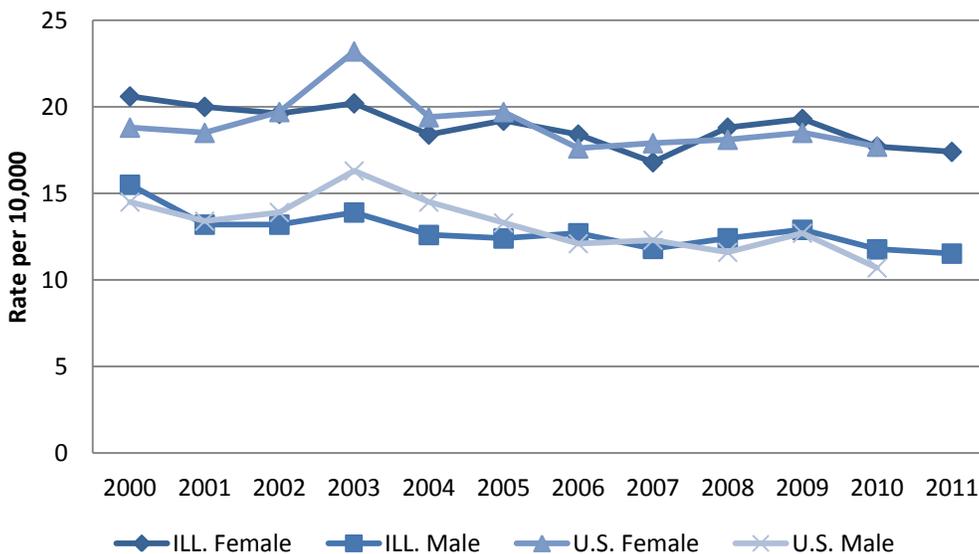
The ED visit rate per 100 persons with asthma for black persons was more than twice as high as the rate for white persons during each year from 2001 to 2009.<sup>17</sup> The asthma ED visit rate was the highest for children aged 0–4 years (20.8 visits per 100 persons with asthma) and lowest for adults aged 65 or over (4.0 visits per 100 persons with asthma) .<sup>17</sup>

**Figure 57.** Age-adjusted<sup>†</sup> asthma hospitalization<sup>‡</sup> rates per 10,000, Illinois vs. United States, 2000-2011



Source: Illinois - Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2000-2011; U.S.- National Center for Health Statistics, National Hospital Discharge Survey, 2000-2010.

**Figure 58.** Age-adjusted<sup>†</sup> asthma hospitalizations<sup>‡</sup> rates per 10,000 by sex, Illinois vs. United States, 2000-2010



Source: Illinois - Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2000-2011; U.S.- National Center for Health Statistics, National Hospital Discharge Survey, 2000-2010.

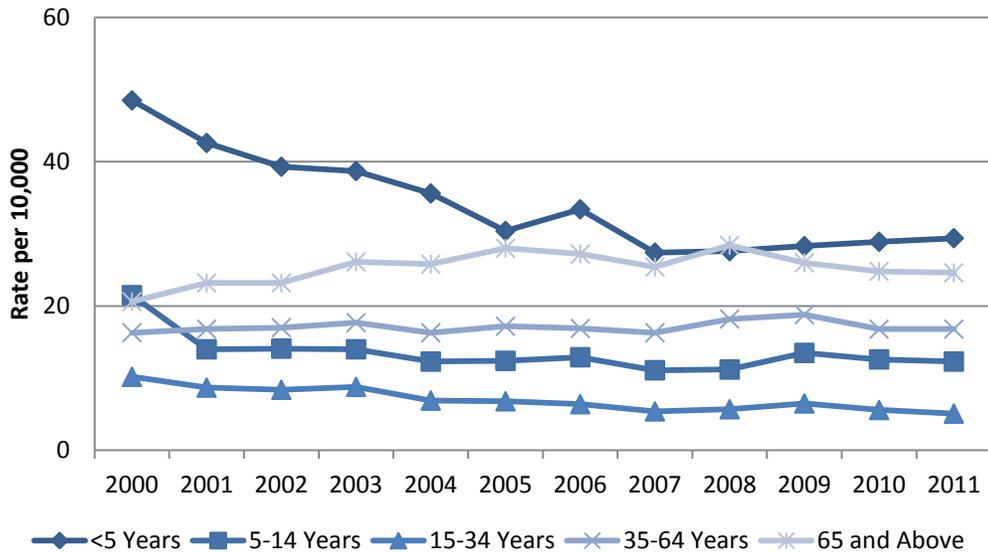
<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment.

<sup>‡</sup>Asthma listed as the principal diagnosis (ICD-9: 493.00-493.92) for asthma hospitalizations.

- In Illinois, the age-adjusted rate of asthma hospitalizations decreased from 18.2 per 10,000 in 2000 to 14.6 per 10,000 in 2011.
- Compared to the United States, Illinois shared a similar age-adjusted hospitalization rate trend.

- There is a higher age-adjusted asthma hospitalization rate among females than males. This trend is true for Illinois and the U.S.
- Age-adjusted asthma hospitalizations rates are declining. In Illinois, female rates have declined from 20.6 per 10,000 in 2000 to 17.4 per 10,000 in 2011. Male rates have declined from 15.5 per 10,000 in 2000 to 11.5 per 10,000 in 2011.

**Figure 59.** Annual age-specific asthma hospitalization rates per 10,000, Illinois, 2000-2011



Source: Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2000-2007.

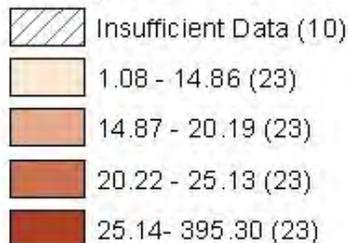
- Hospitalization due to asthma was highest among the less than 5 years old age group compared to other age groups from 2000 to 2011.
- Hospitalization rates due to asthma declined in the age groups younger than 35 years.
- The asthma hospitalization rate among the 35-64 year old age group remained stable from 2000 to 2011.
- Hospitalization rates due to asthma among adults older than 65 years increased from 20.6 per 10,000 in 2000 to 24.6 per 10,000 in 2011.

Map 3. Illinois asthma hospitalization rates per 10,000 by county, 2009-2010

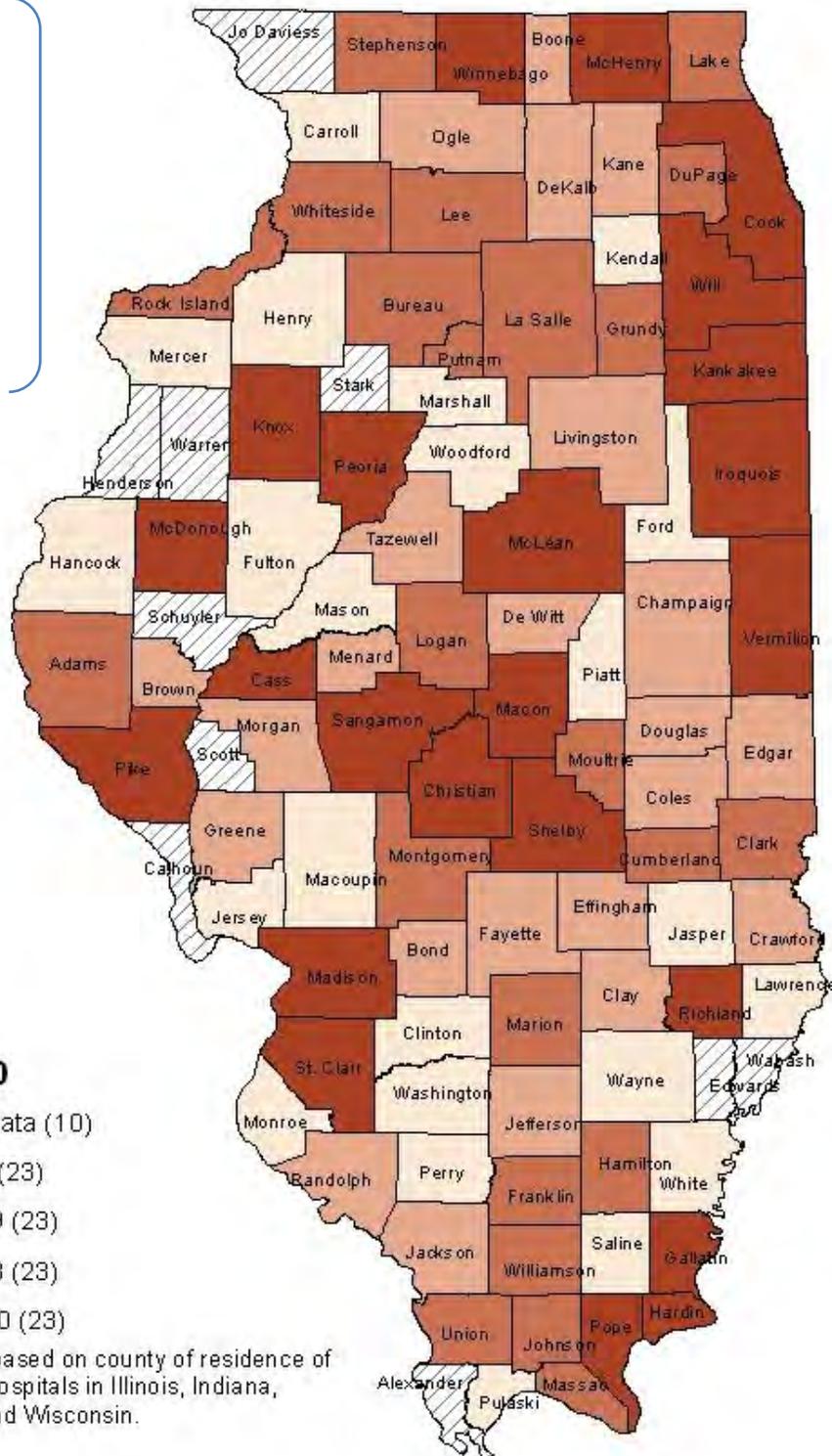
St. Clair County has the highest asthma hospitalization crude rate of 395.30 per 10,000.

Mason County has the lowest asthma hospitalization crude rate of 1.08 per 10,000.

**Rate per 10,000**

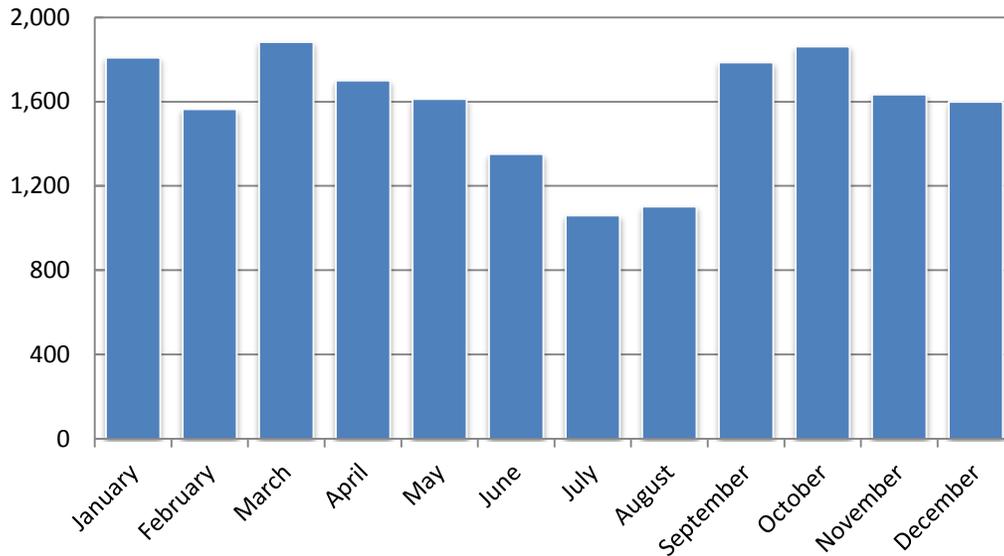


\*Hospitalization data based on county of residence of patient and includes hospitals in Illinois, Indiana, Kentucky, Missouri, and Wisconsin.



Source: Illinois Department of Public Health, Hospital Discharge Data; Indiana State Department of Health; Kentucky Cabinet for Health and Family Services; Missouri Department of Health; Wisconsin Department of Health Services

**Figure 60.** Number of asthma hospitalizations by month of admission, Illinois, 2011



Note: Asthma listed as the principal diagnosis (ICD-9: 493.00-493.92) for asthma hospitalizations.

Source: Inpatient Hospital Admission Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2006.

**Table 1.** Asthma hospitalizations, average length of stay (LOS), total asthma hospitalization charges and average charge per hospitalization by sex and age group, Illinois, 2011

	Average LOS (days)	Total hospitalization charges (\$)	Average charge per hospitalization (\$)
<b>Sex</b>			
Female	3.5	255,579,471	21,665
Male	2.7	127,768,149	17,817
<b>Age Group</b>			
<5 Years	2	28,282,624	11,606
5-14 Years	2.3	33,641,507	15,869
15-34 Years	2.5	31,022,027	17,017
35-64 Years	3.4	183,118,523	21,410
65 and Above	4.3	107,282,938	26,588
<b>Total</b>	3.2	383,347,620	20,210

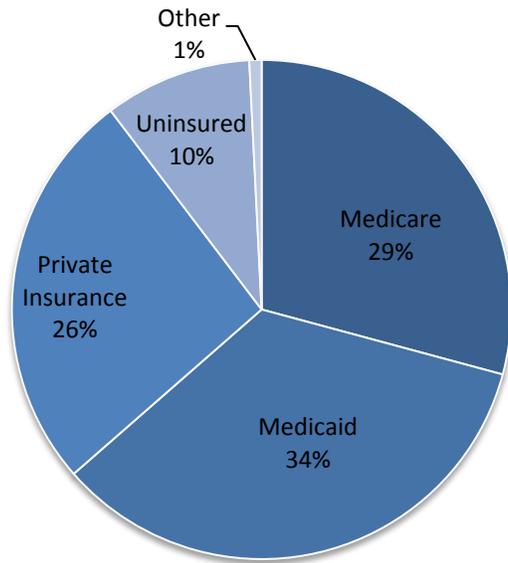
Note: Asthma listed as the principal diagnosis (ICD-9: 493.00-493.92) for asthma hospitalizations.

Source: Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2011.

- The number of asthma hospitalization in 2011 was highest in March (1,883), October (1,862) and January (1,809).
- The lowest number of asthma hospitalization was in July 2011 (1,060).

- Illinois females had a longer length of stay, total asthma hospitalizations charges and average charge per hospitalization than males.
- Average length of stay and average charge per hospitalization increased with age in Illinois in 2011.

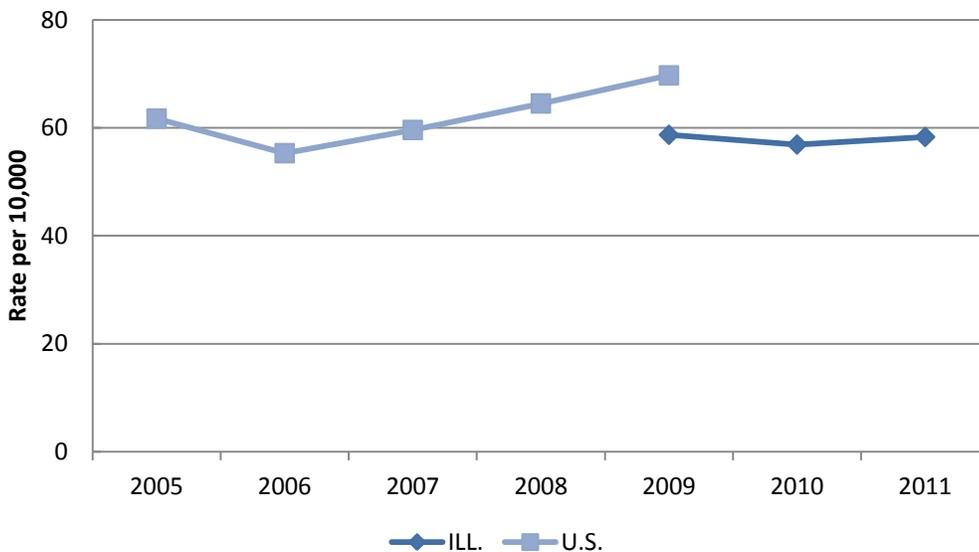
**Figure 61.** Distribution of primary payer for asthma hospitalizations, Illinois, 2011



Source: HCUP State Inpatient Databases 2011, Agency for Healthcare Research and Quality (AHRQ), based on data collected by the Illinois Department of Public Health and provided to AHRQ.

- Medicaid (34%) was the top primary payer for asthma hospitalizations in 2011 followed by Medicare (29%) and private insurance (26%).
- One in 10 patients with a hospitalization for asthma did not have insurance.

**Figure 62.** Annual age-adjusted asthma hospital emergency department visit rate per 10,000, Illinois vs. U.S., 2005-2011

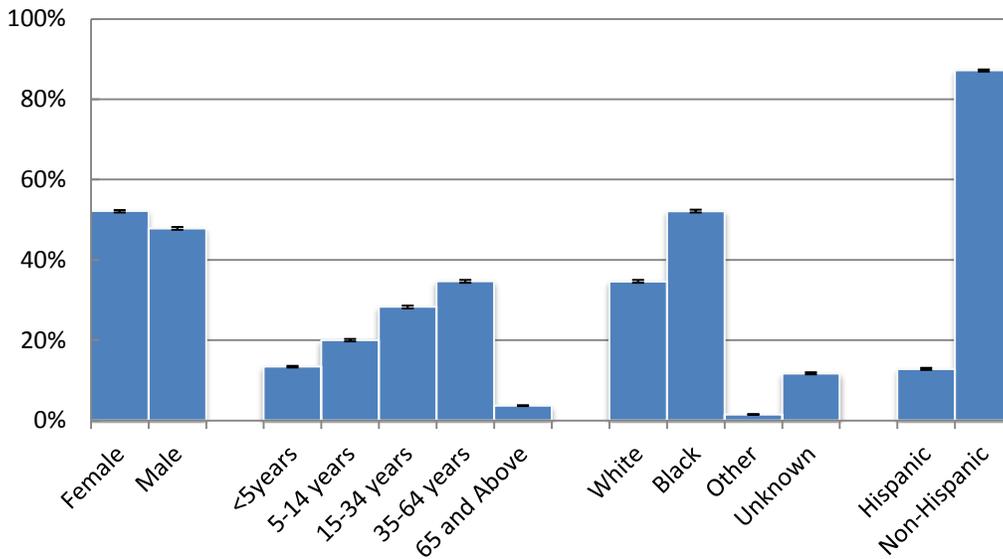


Sources: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2009-2011;

Moorman JE, et al. National Surveillance of Asthma: United States, 2001-2010. National Center for Health Statistics. Vital Health Stat 3(35). 2012.

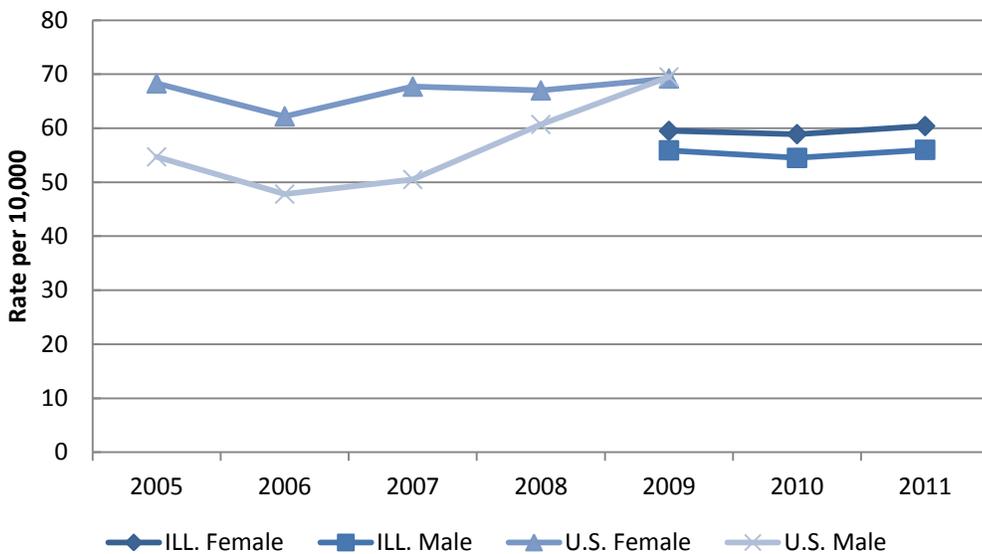
- The asthma ED visit rate in the United States increased from 61.7 per 10,000 in 2005 to 69.7 per 10,000 in 2009.
- The asthma ED visit rate in Illinois between 2009 and 2011 has remained around 58 per 10,000.

**Figure 63.** Percentage of asthma hospital emergency department visits by demographics, Illinois, 2011



Source: Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2011

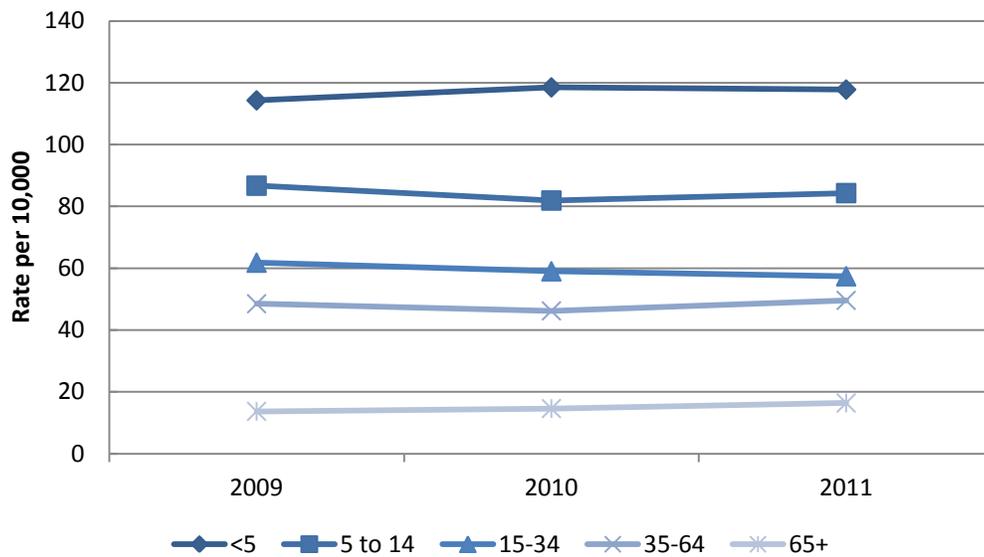
**Figure 64.** Annual age-adjusted asthma hospital emergency department visit rate per 10,000 by sex, Illinois vs. U.S., 2005-2011



Sources: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2009-2011; Moorman JE, et al. National Surveillance of Asthma: United States, 2001–2010. National Center for Health Statistics. Vital Health Stat 3(35). 2012.

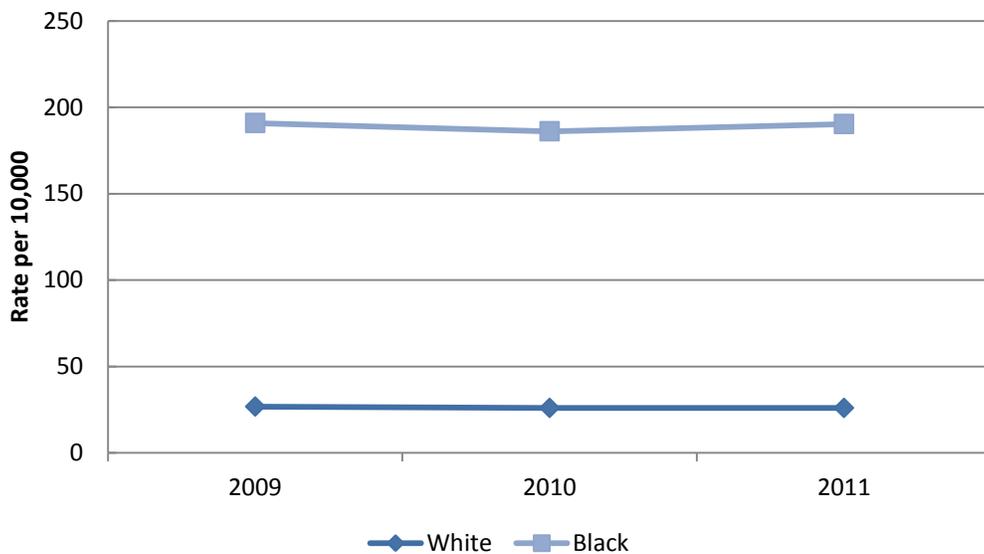
- Significantly more females, blacks and non-Hispanics visited the ED due to asthma in 2011.
- ED visits due to asthma in 2011 increased significantly with age.
- The ED visit rate due to asthma increased in both females and males in the United States from 2005 to 2009.
- The asthma ED visit rate in Illinois was higher for females than males with a rate of 60.4 per 10,000 for females and 56.0 per 10,000 for males in 2011.

**Figure 65.** Age-specific crude asthma hospital emergency department rates, Illinois, 2009-2011



Source: Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2009-2011

**Figure 66.** Annual age-adjusted asthma hospital emergency department visit rate per 10,000 by race, Illinois, 2009-2011



Source: Discharge Data, Office of Policy, Planning and Statistics, Illinois Department of Public Health, 2009-2011

- Asthma ED visit rates remained the same for each age category from 2009 to 2011.
- The crude asthma ED visit rates significantly decreased by age group.
- Asthma ED visit rates were significantly higher for blacks than whites. In 2011, the asthma ED visit rate was 190.3 per 10,000 for blacks and 26.0 per 10,000 for whites.

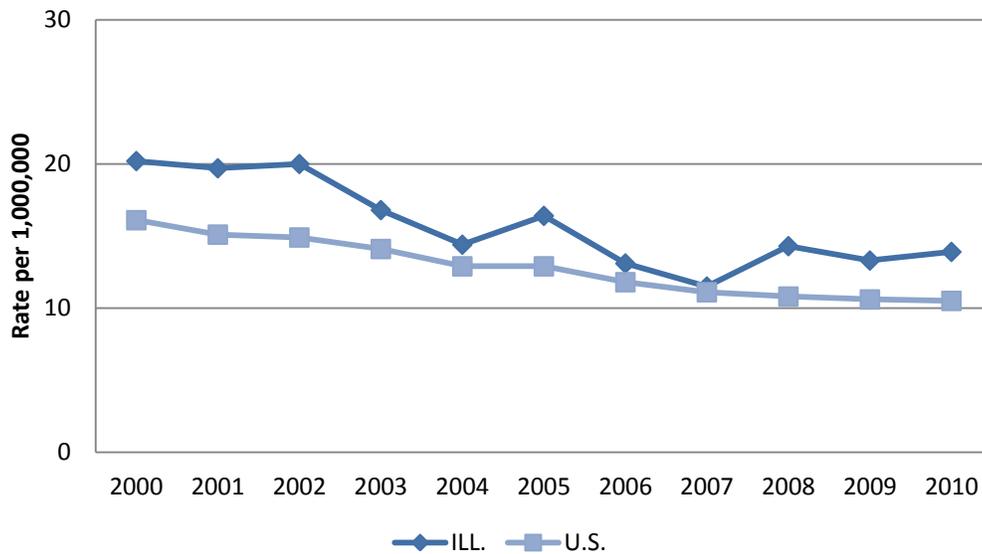
Asthma is a deadly chronic disease. Nine people die from asthma every day in the United States and black Americans are two to three times more likely to die from asthma than any other racial or ethnic group.<sup>1</sup>

In 2007-2009, the asthma death rate in the United States was higher for blacks than whites and for each age group, except persons aged  $\geq 75$  years, for whom the difference was not statistically significant. The rate for blacks aged 0-14 years was almost eight times greater than for whites in that age group. The rate for blacks aged 65-74 years was approximately three times higher than for whites in that age group. Asthma death rates increased with age for blacks and whites.<sup>18</sup>

The number of asthma deaths nationally declined steadily from 2001 (4,269) to 2009 (3,388) at a rate of 3.3 percent per year.<sup>17</sup>

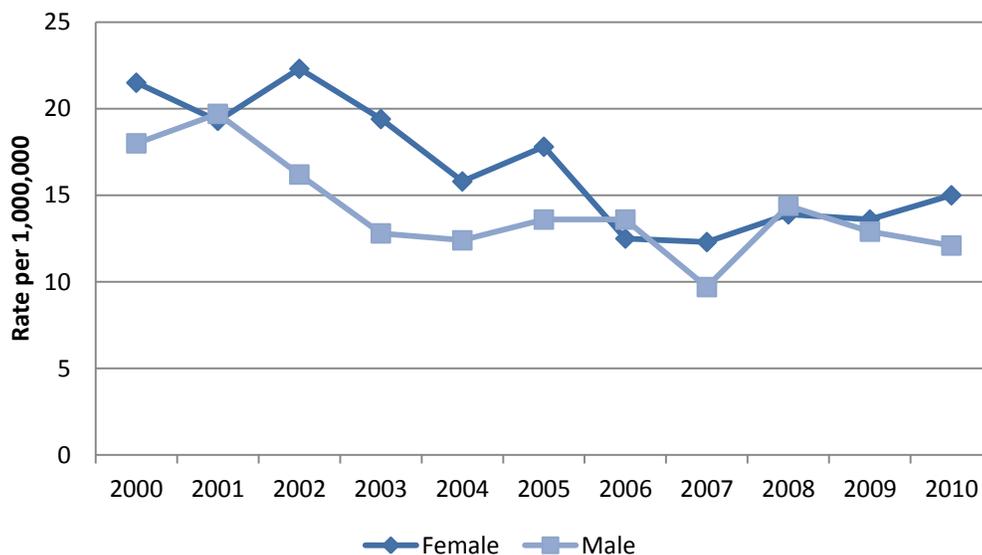
The death rate per 10,000 persons with asthma for black persons was 1.6 to 2.0 times higher than the rate for white persons during each year from 2001 to 2009. The asthma death rate for non-Hispanic persons was 1.3 to 2.0 times higher than the rate for Hispanic persons during each year.<sup>17</sup>

**Figure 67.** Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup>, Illinois vs. United States, 2000-2010



Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

**Figure 68.** Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup> by sex, Illinois, 2000-2010



Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

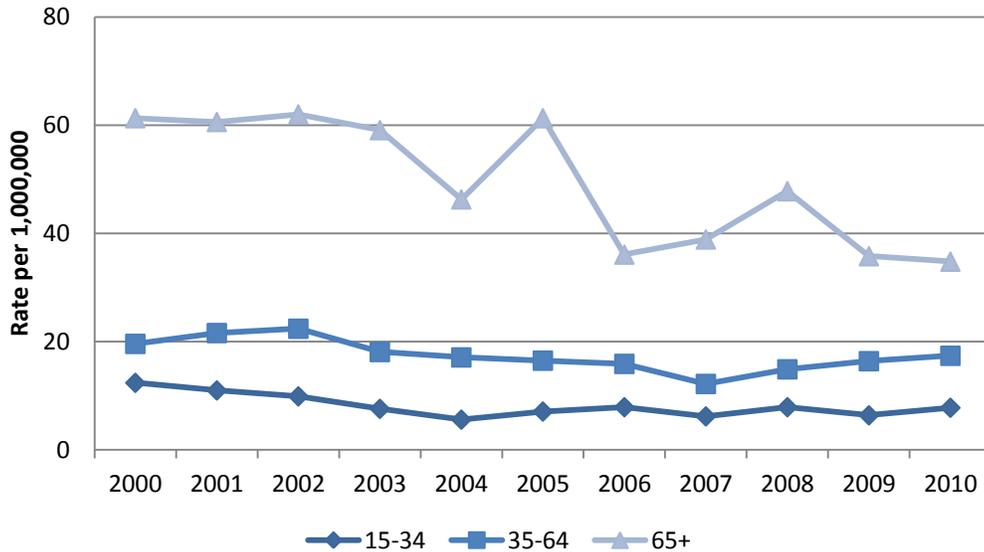
<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment.

<sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000

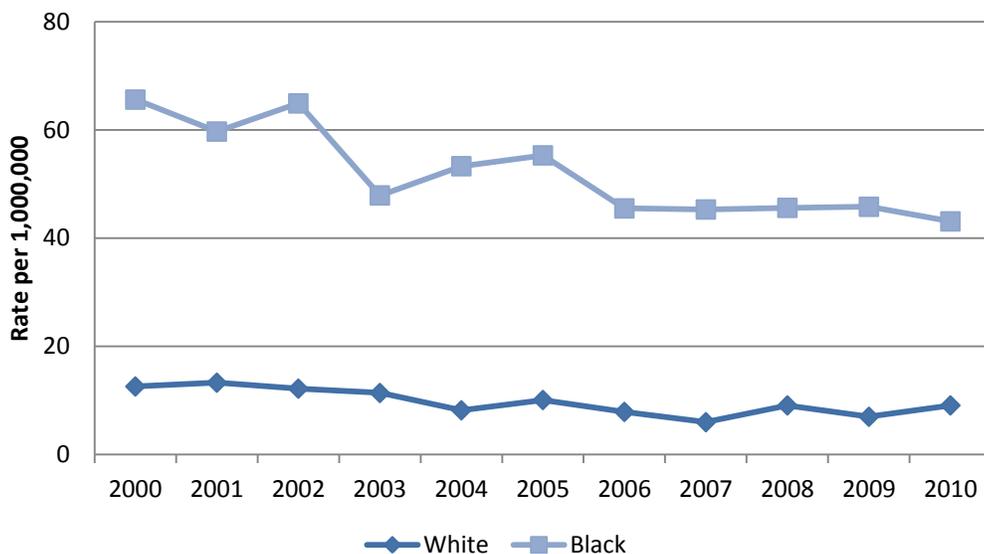
- In Illinois, the age-adjusted asthma mortality rate has decreased from 20.2 per 10,000 in 2000 to 13.9 per 10,000 in 2011.
- Compared to the United States, Illinois has had a higher age-adjusted mortality rate trend. This difference is significant for 2000-2002, 2005, 2008-2010.

- There is a higher age-adjusted asthma mortality rate among females than males.
- Age-adjusted asthma mortality rates are declining. In Illinois, female rates have declined from 21.5 per 10,000 in 2000 to 15.0 per 10,000 in 2010. Male rates have declined from 18.0 per 10,000 in 2000 to 12.1 per 10,000 in 2010.

**Figure 69.** Age-specific asthma mortality<sup>†</sup> rates<sup>§</sup>, Illinois, 2000-2010

Note: Data suppressed for age groups <5 and 5-14 due to small numbers of death.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

**Figure 70.** Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup> by race, Illinois, 2000-2010

Note: Data suppressed for Other racial category due to small numbers of death.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment.

<sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000

- Mortality due to asthma is significantly highest among the 65 years and older age group.
- Mortality due to asthma has remained relatively stable in those younger than 65 years of age from 2000 to 2010.
- Mortality rates due to asthma among adults older than 65 years of age have significantly decreased from 61.3 per 10,000 in 2000 to 34.8 per 10,000 in 2010.
- Mortality due to asthma has decreased among whites and blacks from 2000 to 2010.
- Statistically, the rate of asthma mortality is higher among blacks than whites.

In Illinois, the burden of asthma appears to be lessening as evidenced by declining prevalence, hospitalizations and mortality. Despite these gains, asthma continues to affect about 1.3 million people, or 13 percent of the Illinois population (BRFSS, 2011). Approximately 60 percent of Illinois residents who have ever been diagnosed with asthma currently have asthma.

Though the cause of asthma has yet to be proven, there are clear guidelines on how to manage the symptoms. It is important to reduce the burden of asthma in communities and in the health care system by integrating these guidelines in every asthma patient's care.

Controlling exposure to asthma triggers also is an important part of asthma management. About 70 percent of high school students and 51 percent of middle school students who have had an asthma attack reported they had been in the same room as someone smoking during the past seven days. About a third of students with asthma live in a home where smoking is allowed. Based on these data, it is clear that avoidance of asthma triggers, such as secondhand smoke, could use improvement.

Interventions to emphasize improving measures in disparately affected groups will be needed to continue to decrease the continuing burden of asthma in Illinois. To achieve these ends, surveillance systems and implementation of the Illinois Asthma Plan will continue to provide a comprehensive approach to reducing the burden of asthma.

Data for Figure 1: Lifetime and current adult asthma prevalence, Illinois vs. U.S., 2000-2010

Year	Illinois		Illinois		U.S.		U.S.	
	Current	95% CI	Lifetime	95% CI	Current	95% CI	Lifetime	95% CI
2000	7.9%	(6.4-9.4)	10.6%	(8.9-12.2)	7.2%	(7.0-7.4)	10.4%	(10.2-10.7)
2001	7.9%	(6.9-8.8)	11.3%	(10.2-12.4)	7.2%	(7.0-7.4)	11.0%	(10.8-11.2)
2002	7.2%	(6.4-8.0)	10.7%	(9.8-11.7)	7.5%	(7.3-7.7)	11.8%	(11.6-12.0)
2003	7.4%	(6.6-8.1)	11.1%	(10.2-12.1)	7.7%	(7.5-7.9)	11.9%	(11.6-12.1)
2004	8.4%	(7.4-9.5)	13.1%	(11.8-14.3)	8.1%	(7.9-8.3)	13.3%	(13.1-13.6)
2005	7.0%	(6.1-7.8)	10.6%	(9.6-11.6)	7.9%	(7.7-8.0)	12.5%	(12.2-12.7)
2006	8.3%	(7.3-9.3)	13.0%	(11.7-14.2)	8.2%	(8.0-8.4)	12.8%	(12.5-13.0)
2007	8.3%	(7.3-9.3)	12.7%	(11.5-14.0)	8.2%	(8.1-8.4)	12.9%	(12.7-13.2)
2008	7.9%	(6.9-8.8)	13.2%	(11.8-14.6)	8.5%	(8.3-8.7)	13.3%	(13.1-13.5)
2009	9.0%	(8.0-10.1)	13.3%	(12.0-14.5)	8.4%	(8.3-8.6)	13.4%	(13.1-13.6)
2010	9.2%	(8.0-10.4)	13.6%	(12.2-15.0)	8.6%	(8.5-8.8)	13.5%	(13.3-13.7)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 2: Lifetime and current adult asthma prevalence, Illinois vs. U.S., 2011

Year	Illinois		Illinois		U.S.		U.S.	
	Current	95% CI	Lifetime	95% CI	Current	95% CI	Lifetime	95% CI
2011	8.1%	(7.1-9.2)	13.5%	(12.1-14.9)	8.8%	(8.6-8.9)	13.5%	(13.3-13.7)

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2011.

Data for Figure 3: Lifetime adult asthma prevalence by demographics, Illinois, 2011

	2011	95% CI
<b>Sex</b>		
Female	14.9%	(13.1-16.6)
Male	12.1%	(10.0-14.1)
<b>Age (Adult)</b>		
18-24 Years	18.6%	(13.2-23.9)
25-44 Years	13.5%	(11.1-16.0)
45-64 Years	13.1%	(11.1-15.2)
65 and Above	10.4%	(8.5-12.2)
<b>Race</b>		
White	12.7%	(11.3-14.2)
Black	18.3%	(13.7-22.9)
Other	12.7%	(7.5-17.9)
<b>Ethnicity</b>		
Hispanic	12.5%	(7.7-17.2)
Non-Hispanic	13.7%	(12.3-15.1)
<b>Education</b>		
Non-High School Graduate	14.1%	(9.2-19.0)
High School Graduate	12.9%	(10.4-15.4)
Some College	15.2%	(12.6-17.7)
College Graduate	11.8%	(9.9-13.6)
<b>Household Income</b>		
<\$15K	16.4%	(12.1-20.7)
\$15,000 - 34,999	15.0%	(12.0-17.9)
\$35,000 - 49,999	15.3%	(10.9-19.5)
\$50K and Above	12.0%	(10.2-13.8)
<b>Overall</b>	13.5%	(12.1-14.9)

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

Data for Figure 4: Current adult asthma prevalence by demographics, Illinois, 2011

	2011	95% CI
<b>Sex</b>		
Female	10.3%	(8.9-11.8)
Male	5.9%	(4.4-7.4)
<b>Age (Adult)</b>		
18-24 Years	6.6%	(3.3-10.0)
25-44 Years	8.2%	(6.2-10.1)
45-64 Years	8.7%	(7.1-10.4)
65 and Above	8.2%	(6.5-9.9)
<b>Race</b>		
White	7.8%	(6.7-8.8)
Black	12.2%	(8.3-16.1)
Other	5.5%	(2.3-8.8)
<b>Ethnicity</b>		
Hispanic	6.0%	(3.0-8.9)
Non-Hispanic	8.5%	(7.4-9.6)
<b>Education</b>		
Non-High School Graduate	6.8%	(3.6-10.1)
High School Graduate	9.2%	(7.0-11.3)
Some College	8.8%	(6.8-10.7)
College Graduate	7.1%	(5.6-8.6)
<b>Household Income</b>		
<\$15K	13.3%	(9.4-17.2)
\$15,000 - 34,999	9.6%	(7.3-11.8)
\$35,000 - 49,999	7.9%	(5.0-10.8)
\$50K and Above	6.5%	(5.1-7.9)
<b>Overall</b>	<b>8.1%</b>	<b>(7.1-9.2)</b>

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

Data for Figure 5: Lifetime adult asthma prevalence by sex, Illinois, 2000-2010

Year	Female	95% CI	Male	95% CI
2000	12.9%	(10.5-15.4)	8.0%	(5.7-10.3)
2001	13.5%	(12.0-15.1)	8.9%	(7.3-10.4)
2002	12.6%	(11.2-13.9)	8.7%	(7.4-10.0)
2003	12.9%	(11.6-14.2)	9.2%	(7.8-10.6)
2004	13.8%	(12.2-15.4)	12.4%	(10.4-14.3)
2005	13.3%	(11.9-14.8)	7.8%	(6.4-9.2)
2006	14.7%	(13.1-16.3)	11.2%	(9.2-13.1)
2007	14.4%	(12.7-15.8)	11.1%	(9.1-13.1)
2008	14.4%	(12.7-16.0)	12.1%	(9.8-14.3)
2009	16.0%	(14.3-17.7)	10.4%	(8.6-12.2)
2010	16.0%	(14.1-17.8)	11.2%	(9.1-13.3)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 6: Lifetime adult asthma prevalence by age group, Illinois, 2000-2010

Year	18-24	25-34	35-44	45-54	55-64	65+
2000	15.0%	13.2%	10.1%	7.4%	7.0%	10.9%
95% CI	(8.5-21.5)	(8.8-17.6)	(6.8-13.5)	(4.6-10.2)	(3.8-10.2)	(6.5-15.3)
2001	19.1%	13.6%	8.8%	8.7%	11.0%	7.9%
95% CI	(14.6-23.6)	(10.9-16.4)	(7.6-12.0)	(6.4-11.1)	(8.1-13.9)	(5.9-10.0)
2002	15.6%	11.4%	7.3%	11.5%	10.3%	9.8%
95% CI	(11.9-19.3)	(9.2-13.6)	(5.6-8.9)	(9.3-13.8)	(7.7-12.8)	(7.7-11.9)
2003	11.6%	13.7%	10.1%	10.3%	12.4%	8.8%
95% CI	(8.5-14.7)	(11.0-16.5)	(8.2-11.9)	(8.2-12.4)	(9.8-14.9)	(6.9-10.8)
2004	17.8%	14.8%	10.6%	11.4%	13.4%	11.9%
95% CI	(13.0-22.6)	(11.5-18.1)	(8.2-13.0)	(9.1-13.8)	(10.5-16.4)	(9.3-14.5)
2005	12.0%	12.1%	10.0%	10.6%	11.0%	8.2%
95% CI	(7.7-16.3)	(9.6-14.6)	(8.1-12.0)	(8.4-12.8)	(8.6-13.5)	(6.6-9.8)
2006	20.0%	13.1%	11.2%	12.5%	12.6%	10.3%
95% CI	(14.2-25.7)	(10.1-16.2)	(8.7-13.7)	(10.0-14.9)	(10.2-14.9)	(8.3-12.2)
2007	24.0%	14.4%	9.1%	11.1%	11.3%	10.5%
95% CI	(17.1-31.0)	(11.0-17.8)	(7.0-11.1)	(8.9-13.4)	(9.2-13.5)	(8.7-12.3)
2008	20.8%	14.5%	12.3%	11.0%	11.5%	10.9%
95% CI	(13.5-28.1)	(11.2-17.8)	(9.7-15.0)	(8.9-13.1)	(9.3-13.7)	(9.0-12.9)
2009	17.4%	15.0%	11.7%	12.7%	12.3%	11.2%
95% CI	(11.7-23.2)	(11.5-18.4)	(9.1-14.3)	(10.6-14.7)	(9.9-14.8)	(9.5-12.9)
2010	20.9%	15.7%	14.6%	10.9%	11.3%	11.4%
95% CI	(13.6-28.2)	(11.4-20.1)	(11.4-17.7)	(8.5-13.2)	(9.1-13.5)	(9.5-13.2)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 7: Lifetime adult asthma prevalence by race/ethnicity, Illinois, 2000-2010

Year	White Non-Hispanic	95% CI	Black Non-Hispanic	95% CI	Other Non-Hispanic	95% CI	Hispanic	95% CI
2000	10.8%	(8.9-12.8)	13.9%	(7.8-20.0)	--	--	5.8%	(2.3-9.2)
2001	10.8%	(9.6-12.1)	13.7%	(9.9-17.5)	14.2%	(8.4-20.1)	9.4%	(5.6-13.3)
2002	11.1%	(10.0-12.2)	15.2%	(11.7-12.2)	9.0%	(4.0-14.0)	5.4%	(3.3-7.5)
2003	11.1%	(10.0-12.2)	14.6%	(11.0-18.1)	12.2%	(6.4-17.9)	7.1%	(4.5-9.7)
2004	12.8%	(11.5-14.2)	17.9%	(13.6-22.3)	11.5%	(5.7-17.4)	8.7%	(5.2-12.2)
2005	10.8%	(9.7-12.0)	11.1%	(7.9-14.2)	9.9%	(4.5-15.3)	7.2%	(4.5-10.0)
2006	12.9%	(11.6-14.3)	19.1%	(14.5-23.8)	4.8%	(1.2-8.4)	9.1%	(5.4-12.7)
2007	12.7%	(11.4-14.0)	14.7%	(10.5-19.0)	6.6%	(2.3-11.0)	11.3%	(6.6-16.0)
2008	12.2%	(10.9-13.5)	18.1%	(13.0-23.1)	11.3%	(3.4-19.8)	12.7%	(7.4-18.0)
2009	12.4%	(11.1-13.6)	18.3%	(13.9-22.8)	11.8%	(6.0-17.7)	12.8%	(7.7-17.9)
2010	12.6%	(11.1-14.2)	19.3%	(15.0-23.6)	8.2%	(3.1-13.2)	12.5%	(7.0-18.1)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 8: Current adult asthma prevalence by sex, Illinois, 2000-2010

Year	Female	95% CI	Male	95% CI
2000	10.7%	(8.4-13.0)	4.9%	(3.1-6.6)
2001	10.3%	(8.9-11.7)	5.2%	(4.0-6.5)
2002	9.1%	(7.9-10.2)	5.1%	(4.1-6.1)
2003	8.9%	(7.8-9.9)	5.8%	(4.6-6.9)
2004	9.1%	(7.8-10.5)	7.7%	(6.1-9.3)
2005	10.0%	(8.7-11.3)	3.7%	(2.8-4.7)
2006	10.6%	(9.3-11.9)	5.9%	(4.4-7.4)
2007	10.1%	(8.7-11.5)	6.3%	(4.9-7.8)
2008	10.3%	(9.0-11.7)	5.2%	(4.1-6.4)
2009	11.5%	(10.0-13.1)	6.4%	(5.0-7.8)
2010	11.6%	(10.0-13.2)	6.6%	(4.9-8.4)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 9: Current adult asthma prevalence by age group, Illinois, 2000-2010

Year	18-24	25-34	35-44	45-54	55-64	65+
2000	10.7%	8.1%	7.7%	6.1%	6.2%	8.9%
95% CI	(4.8-16.5)	(4.3-11.9)	(4.7-10.8)	(3.6-8.6)	(3.1-9.3)	(5.5-12.3)
2001	11.3%	8.4%	7.8%	6.6%	8.5%	5.8%
95% CI	(7.6-15.0)	(6.1-10.7)	(5.8-9.8)	(4.6-8.7)	(5.9-11.0)	(4.0-7.6)
2002	9.2%	7.2%	5.0%	7.1%	8.3%	7.6%
95% CI	(6.5-12.0)	(5.4-8.9)	(3.6-6.4)	(5.3-8.9)	(6.0-10.5)	(5.7-9.4)
2003	8.7%	8.4%	5.5%	6.2%	9.4%	7.1%
95% CI	(5.9-11.4)	(6.3-10.4)	(4.2-6.8)	(4.7-7.7)	(7.2-11.6)	(5.3-8.9)
2004	11.3%	8.7%	6.8%	7.1%	9.4%	8.9%
95% CI	(7.1-15.5)	(6.0-11.4)	(4.8-8.8)	(5.2-8.9)	(6.8-11.9)	(6.8-11.2)
2005	7.6%	6.6%	6.4%	7.6%	7.9%	6.1%
95% CI	(4.0-11.2)	(4.8-8.4)	(4.8-8.0)	(5.7-9.5)	(5.8-10.0)	(4.7-7.5)
2006	9.8%	8.2%	6.7%	9.2%	9.3%	7.6%
95% CI	(5.7-14.0)	(5.7-10.8)	(4.8-8.6)	(7.0-11.4)	(7.2-11.3)	(5.8-9.3)
2007	12.9%	8.3%	5.4%	8.9%	8.1%	8.0%
95% CI	(7.5-18.4)	(5.9-10.8)	(3.8-7.0)	(6.8-10.9)	(6.8-10.0)	(6.4-9.5)
2008	7.1%	8.1%	7.2%	7.6%	8.6%	8.7%
95% CI	(3.3-10.9)	(5.8-10.5)	(5.3-9.2)	(5.9-9.3)	(6.7-10.6)	(7.0-10.5)
2009	13.1%	8.4%	7.2%	9.2%	8.6%	8.6%
95% CI	(7.9-18.2)	(5.8-11.0)	(5.0-9.4)	(7.4-11.0)	(6.4-10.8)	(7.1-10.2)
2010	14.8%	8.6%	10.0%	7.9%	8.0%	7.4%
95% CI	(8.2-21.5)	(5.4-11.9)	(7.5-12.6)	(5.8-10.0)	(6.1-9.9)	(5.8-8.9)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 10: Current adult asthma prevalence by race/ethnicity, Illinois, 2000-2010

Year	White NH	95% CI	Black NH	95% CI	Other NH	95% CI	Hispanic	95% CI
2000	8.1%	(6.4-9.9)	9.4%	(4.9-14.0)	4.3%	*	5.0%	(1.7-8.2)
2001	7.6%	(6.5-8.7)	9.9%	(6.6-13.2)	7.8%	(3.7-12.0)	6.6%	(3.3-9.8)
2002	7.3%	(6.4-8.2)	11.5%	(8.3-14.6)	4.4%	(0.6-8.2)	3.6%	(1.9-5.3)
2003	7.9%	(6.9-8.8)	9.3%	(6.5-12.0)	5.9%	(1.9-9.9)	3.1%	(1.4-4.7)
2004	8.4%	(7.2-9.5)	13.0%	(9.0-17.0)	6.5%	(2.0-11.0)	4.0%	(1.5-6.5)
2005	6.8%	(5.9-7.8)	8.2%	(5.5-11.0)	5.3%	(1.0-9.7)	5.2%	(2.9-7.6)
2006	8.3%	(7.2-9.3)	12.1%	(8.3-15.9)	3.2%	*	5.7%	(2.7-8.6)
2007	8.2%	(7.2-13.4)	10.3%	(7.2-13.4)	3.7%	*	7.4%	(3.5-11.2)
2008	8.4%	(7.3-9.4)	10.1%	(6.8-13.4)	4.0%	(0.6-7.5)	3.3%	(1.3-5.2)
2009	8.2%	(7.2-9.3)	13.0%	(9.0-17.0)	7.7%	(3.3-12.1)	8.9%	(4.5-13.3)
2010	8.4%	(7.1-9.7)	13.9%	(10.3-17.5)	6.9%	(2.1-11.8)	6.7%	(2.2-11.1)

\*Results not reliable due to small sample size

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2000-2010.

Data for Figure 11: Lifetime and current youth asthma prevalence, Illinois vs. U.S., 2007-2010

Year	Illinois		Illinois		U.S.		U.S.	
	Current	95% CI	Lifetime	95% CI	Current	95% CI	Lifetime	95% CI
2007	7.8%	(6.2-9.7)	11.3%	(9.4-13.5)	8.9%	(8.5-9.4)	13.5%	(13.0-14.1)
2008	8.5%	(6.9-10.4)	12.0%	(10.1-14.1)	9.0%	(8.6-9.4)	13.3%	(12.8-13.7)
2009	9.3%	(7.6-11.2)	13.0%	(11.1-15.2)	8.6%	(8.2-9.0)	13.2%	(12.8-13.7)
2010	9.8%	(7.7-12.4)	13.6%	(11.2-16.3)	8.4%	(8.0-8.8)	12.6%	(12.1-13.2)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 12: Lifetime and current youth asthma prevalence, Illinois vs. U.S., 2010

Year	Illinois		Illinois		U.S.		U.S.	
	Current	95% CI	Lifetime	95% CI	Current	95% CI	Lifetime	95% CI
2010	9.8%	(7.7-12.4)	13.6%	(11.2-16.3)	8.4%	(8.0-8.8)	12.6%	(12.1-13.2)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2010.

Data for Figure 13: Lifetime youth asthma prevalence by demographics, Illinois, 2010

	2010	95% CI
<b>Sex</b>		
Female	12.4%	(9.4-16.3)
Male	14.6%	(11.3-18.8)
<b>Age</b>		
0-4 Years	8.6%	(4.7-15.0)
5-9 Years	16.1%	(11.5-22.1)
10-14 Years	14.4%	(9.7-20.8)
15-17 Years	15.9%	(11.6-21.4)
<b>Race/Ethnicity</b>		
White, Non-Hispanic	10.9%	(8.5-13.7)
Black, Non-Hispanic	25.1%	(17.9-33.9)
Other, Non-Hispanic	14.2%	(7.5-25.1)
Hispanic	10.8%	(6.0-18.7)
<b>Overall</b>	<b>13.6%</b>	<b>(11.2-16.3)</b>

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2010.

Data for Figure 14: Current youth asthma prevalence by demographics, Illinois, 2010

	2010	95% CI
<b>Sex</b>		
Female	8.8%	(6.1-12.5)
Male	10.8%	(7.8-14.8)
<b>Age</b>		
0-4 Years	7.4%	(3.8-13.8)
5-9 Years	12.5%	(8.4-18.3)
10-14 Years	10.4%	(6.3-16.8)
15-17 Years	8.4%	(5.4-12.9)
<b>Race/Ethnicity</b>		
White, Non-Hispanic	7.6%	(5.6-10.2)
Black, Non-Hispanic	21.7%	(14.8-30.7)
Other, Non-Hispanic	5.1%	(1.5-16.0)
Hispanic	5.4%	(2.1-13.0)
<b>Overall</b>	<b>9.8%</b>	<b>(7.7-12.4)</b>

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2010.

Data for Figure 15: Lifetime youth asthma prevalence by sex, Illinois, 2007-2010

Year	Female	95% CI	Male	95% CI
2007	9.6%	(7.3-12.5)	12.9%	(10.0-16.4)
2008	11.4%	(8.9-14.6)	12.7%	(10.1-15.8)
2009	11.5%	(9.0-14.5)	14.6%	(11.8-18.0)
2010	12.4%	(9.4-16.3)	14.6%	(11.3-18.8)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 16: Lifetime youth asthma prevalence by age group, Illinois, 2007-2010

Year	0-4	95% CI	5-9	95% CI	10-14	95% CI	15-17	95% CI
2007	4.7%	(2.7-8.1)	10.3%	(7.3-14.5)	15.4%	(11.6-20.2)	16.5%	(11.0-24.1)
2008	4.2%	(2.3-7.4)	14.8%	(11.0-19.6)	15.6%	(11.5-20.8)	16.0%	(11.7-21.5)
2009	7.2%	(4.6-11.2)	15.4%	(11.2-20.7)	15.4%	(12.0-19.7)	15.5%	(10.7-21.9)
2010	8.6%	(4.7-15.0)	16.1%	(11.5-22.1)	14.4%	(9.7-20.8)	15.9%	(11.6-21.4)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 17: Lifetime youth asthma prevalence by race/ethnicity, Illinois, 2007-2010

Year	White Non-Hispanic	95% CI	Black Non-Hispanic	95% CI	Other Non-Hispanic	95% CI	Hispanic	95% CI
2007	10.2%	(8.3-12.4)	14.1%	(8.7-21.9)	11.9%	(6.2-21.6)	12.3%	(7.3-20.0)
2008	11.8%	(9.7-14.2)	17.8%	(11.9-25.8)	8.7%	(4.7-15.7)	9.7%	(5.9-15.5)
2009	11.7%	(9.7-13.9)	21.0%	(15.0-28.7)	6.1%	(2.9-12.4)	13.2%	(7.9-21.2)
2010	10.9%	(8.5-13.7)	25.1%	(17.9-33.9)	14.2%	(7.5-25.1)	10.8%	(6.0-18.7)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 18: Current youth asthma prevalence by sex, Illinois, 2007-2010

Year	Female	95% CI	Male	95% CI
2007	6.7%	(4.8-9.2)	8.8%	(6.4-12.0)
2008	7.5%	(5.5-10.2)	9.4%	(7.1-12.4)
2009	9.2%	(7.0-12.0)	9.4%	(7.2-12.3)
2010	8.8%	(6.1-12.5)	10.8%	(7.8-14.8)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 19: Current youth asthma prevalence by age group, Illinois, 2007-2010

Year	0-4	95% CI	5-9	95% CI	10-14	95% CI	15-17	95% CI
2007	3.6%	(1.9-6.8)	7.0%	(4.6-10.7)	10.0%	(6.9-14.3)	11.9%	(7.3-18.8)
2008	3.5%	(1.8-6.7)	10.6%	(7.4-15.0)	10.8%	(7.4-15.5)	10.4%	(6.8-15.5)
2009	5.8%	(3.5-9.5)	12.7%	(8.8-17.9)	10.7%	(7.9-14.4)	7.2%	(4.7-10.8)
2010	7.4%	(3.8-13.8)	12.5%	(8.4-18.3)	10.4%	(6.3-16.8)	8.4%	(5.4-12.9)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 20: Current youth asthma prevalence by race/ethnicity, Illinois, 2007-2010

Year	White Non-Hispanic	95% CI	Black Non-Hispanic	95% CI	Other Non-Hispanic	95% CI	Hispanic	95% CI
2007	7.3%	(5.7-9.3)	9.9%	(5.4-17.5)	8.7%	(3.9-18.4)	6.9%	(5.6-10.2)
2008	7.9%	(6.2-9.9)	13.6%	(8.4-21.4)	5.5%	(2.4-12.0)	6.4%	(14.8-30.7)
2009	8.4%	(6.7-10.4)	13.2%	(8.9-19.2)	5.0%	(2.1-11.3)	11.0%	(1.5-16.0)
2010	7.6%	(5.6-10.2)	21.7%	(14.8-30.7)	5.1%	(6.1-19.0)	5.4%	(2.1-13.0)

Source: U.S. Behavioral Risk Factor Surveillance System, U.S. Centers for Disease Control and Prevention, 2007-2010.

Data for Figure 21: Percentage of high school students reporting lifetime asthma by selected characteristics, Illinois vs. U.S., 2011

	ILL.		U.S.	
	%	95% CI	%	95% CI
<b>Sex</b>				
Female	20.4	(18.0-22.4)	22.8	(21.2-24.5)
Male	20.9	(18.7-23.3)	23.2	(21.8-24.6)
<b>Race/Ethnicity<sup>¶</sup></b>				
White	19.5	(17.6-21.5)	22.8	(21.2-24.5)
Black	26.1	(22.3-30.2)	26.8	(24.1-29.6)
Hispanic	18.8	(15.6-22.5)	20.3	(17.9-23.0)
<b>Grade</b>				
9th	21.8	(19.1-24.7)	23.5	(21.2-26.0)
10th	20.6	(17.2-24.3)	23.3	(21.4-25.3)
11th	19.3	(16.7-22.2)	22.3	(20.8-24.0)
12th	20.8	(18.0-24.0)	22.6	(20.7-24.6)
<b>Overall</b>	20.7	(19.0-22.4)	23.0	(21.7-24.3)

<sup>¶</sup> White and black students are all non-Hispanic. Students identified as Hispanic might be of any race.

Source: U.S. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States 2011. MMWR 2012; 61(SS-4):1-162.

Data for Figure 22: Percentage of high school students reporting current asthma, by selected characteristics, Illinois vs. U.S., 2011

	ILL.		U.S.	
	%	95% CI	%	95% CI
<b>Sex</b>				
Female	10.2	(8.7-12.0)	13.5	(12.1-15.1)
Male	9.4	(7.7-11.4)	10.4	(9.4-11.4)
<b>Race/Ethnicity<sup>¶</sup></b>				
White	12.2	(9.4-15.6)	12.4	(11.2-13.8)
Black	8.3	(5.7-11.8)	13.5	(11.7-15.6)
Hispanic	9.5	(8.3-11.0)	9.1	(7.4-11.1)
<b>Grade</b>				
9th	10.4	(8.3-13.0)	12.2	(10.5-14.0)
10th	10.7	(8.5-13.4)	12.4	(11.0-14.0)
11th	8.6	(7.0-10.4)	11.5	(10.1-13.1)
12th	9.2	(7.4-11.3)	11.5	(10.1-13.1)
<b>Overall</b>	<b>9.8</b>	<b>(8.7-11.0)</b>	<b>11.9</b>	<b>(10.9-12.9)</b>

<sup>¶</sup>Black and white students are all non-Hispanic. Students identified as Hispanic might be of any race.

Source: U.S. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States 2011. MMWR 2012; 61(SS-4):1-162.

Data for Figure 23: Smoking status of adults: Current asthma vs. all adults, Illinois, 2011

	All Adults	95% CI	Current Asthma	95% CI
Current Smoker	20.9%	(19.1-22.7)	26.2%	(19.9-32.6)
Former Smoker	24.4%	(22.8-25.9)	25.1%	(20.0-30.3)
Never Smoked	54.7%	(52.8-56.7)	48.6%	(42.0-55.3)

Have you smoked at least 100 cigarettes in your entire life?

Do you now smoke cigarettes every day, some days, or not at all?

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

Data for Figure 24: Weight status of adults: Current asthma vs. all adults, Illinois, 2011

	All Adults	95% CI	Current Asthma	95% CI
Normal/Underweight	36.0%	(34.1-37.9)	26.6%	(20.6-32.6)
Overweight	36.8%	(34.8-38.7)	31.1%	(24.9-37.2)
Obese	27.2%	(25.5-29.0)	42.3%	(35.6-49.0)

Note: BMI calculated from self-reported height and weight.

Normal/Underweight: Body Mass Index (BMI) <25

Overweight: BMI ≥ 25 and <30

Obese: BMI ≥30

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

Data for Figure 25: Physical activity status of adults: Current asthma vs. all adults, Illinois, 2011

	All Adults	95% CI	Current Asthma	95% CI
Met Recommendation	49.1%	(47.2-51.1)	51.1%	(44.5-57.8)
Did Not Meet Recommendation	46.0%	(44.0-47.9)	42.6%	(36.2-49.0)

Met Recommendation- Meets aerobic and strengthening guidelines: 150 minutes (or vigorous equivalent minutes) of physical activity per week and performs muscle strengthening activities on two or more days per week.

Did Not Meet Recommendation- Did not meet the aerobic and strengthening guidelines.

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

Data for Figure 26: Percentage of adults and children reporting asthma symptoms in the past 30 days by frequency, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>	<b>Children</b>	<b>95% CI</b>
None	29.2%	(24.0-34.5)	52.3%	(41.3-63.4)
<1x per Week	16.5%	(12.8-20.3)	19.9%	(11.8-28.1)
1-2x per Week	16.3%	(12.9-19.6)	11.3%	(5.2-17.4)
2-4x per Week	22.6%	(18.4-26.8)	14.8%	(6.1-23.5)
Every day	15.3%	(12.2-18.5)	1.7%	(0-3.7)

During the past 30 days, on how many days did you have any symptoms of asthma?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 27: Percentage of adults and children with asthma having trouble sleeping in the past 30 days by number of days, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>	<b>Children</b>	<b>95% CI</b>
None	57.9%	(52.4-63.3)	56.8%	(41.4-72.2)
<1x per Week	13.8%	(10.1-17.5)	27.4%	(13.9-40.8)
1-2x per Week	11.6%	(7.9-15.3)	6.5%	(0.4-12.7)
>2-4x per Week	11.3%	(8.1-14.5)	9.3%	(0-20.5)
Every day	5.5%	(3.3-7.7)	0%	--

During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 28: Percentage of adults and children with asthma having asthma episode or attack in the past 12 months by sex, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>	<b>Children</b>	<b>95% CI</b>
Female	34.9%	(30.1-39.7)	46.9%	(32.6-61.3)
Male	23.3%	(17.6-29.1)	45.9%	(34.1-57.6)

During the past 12 months, have you had an episode of asthma or an asthma attack?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 29: People with asthma who experienced an asthma attack in the past year by age group, Illinois, 2007-2010

	<b>%</b>	<b>95% CI</b>
0-4	72.8%	(48.8-97.0)
5-9	54.0%	(37.6-70.3)
10-14	44.5%	(29.6-59.4)
15-17	27.8%	(11.4-44.1)
18-24	11.1%	(0.0-22.4)
25-34	29.0%	(20.3-37.8)
35-44	28.9%	(19.9-38.0)
45-54	37.2%	(29.5-44.8)
55-64	44.4%	(36.7-52.1)
65-74	31.4%	(24.2-38.6)
75+	26.4%	(16.1-36.6)

During the past 12 months, have you had an episode of asthma or an asthma attack?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 30: Percentage of middle school students with asthma experiencing asthma attack by demographics, Illinois, 2010

	<b>2010</b>	<b>95% CI</b>
<b>Sex</b>		
Female	7.5%	(5.2-9.9)
Male	8.9%	(6.5-11.3)
<b>Grade</b>		
6th	7.9%	(4.6-11.1)
7th	8.5%	(5.6-11.4)
8th	8.3%	(5.6-10.9)
<b>Race/Ethnicity</b>		
White	7.6%	(5.3-9.9)
Black	10.7%	(6.3-15.1)
Other	9.0%	(3.2-14.9)
Hispanic	7.7%	(3.8-11.5)
<b>Overall</b>	<b>8.2%</b>	<b>(6.6-9.9)</b>

During the past 12 months, have you had an episode of asthma or asthma attack?  
 Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

Data for Figure 31: Percentage of high school students with asthma experiencing asthma attack by demographics, Illinois, 2010

	<b>2010</b>	<b>95% CI</b>
<b>Sex</b>		
Female	12.8%	(8.7-16.8)
Male	6.2%	(4.2-8.3)
<b>Grade</b>		
9th	12.0%	(6.6-17.5)
10th	12.2%	(6.7-17.7)
11th	8.0%	(4.0-11.9)
12th	6.1%	(2.8-9.4)
<b>Race/Ethnicity</b>		
White	9.9%	(7.0-12.8)
Black	11.8%	(4.2-19.5)
Other	9.7%	(2.3-17.0)
Hispanic	5.7%	(2.4-9.1)
<b>Overall</b>	<b>10.0%</b>	<b>(7.6-12.4)</b>

During the past 12 months, have you had an episode of asthma or asthma attack?  
 Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

Data for Figure 32: Number of healthy days in the past month by adult asthma status, Illinois, 2011

	<b>Current Asthma</b>		<b>Lifetime Asthma</b>		<b>No Asthma</b>	
	<b>95% CI</b>	<b>95% CI</b>	<b>95% CI</b>	<b>95% CI</b>		
Number of Healthy Days	17.0%	(15.3-18.7)	20.6%	(18-22.6)	23.7%	(23.3-24.1)

Healthy Days: Number of days that both physical health and mental health are good.  
 Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011.

Data for Figure 33: Percentage of adults with active asthma reporting limitation of usual activities due to asthma in the past 12 months by number of days, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>
None	72.1%	(67.9-76.2)
<1x per month	20.1%	(16.2-24.0)
1-4x per month	4.7%	(3.1-6.3)
>4x per month	3.2%	(1.8-4.5)

During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?  
 Source: Adult Asthma Callback Survey, 2007-2010

Data for Figure 34: Percentage of adults with active asthma reporting limitation of usual activities due to asthma in the past 12 months by amount, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>	<b>Children</b>	<b>95% CI</b>
Not at All	44.1%	(39.4-48.8)	46.0%	(36.1-55.8)
A little	36.8%	(32.2-41.5)	44.4%	(34.4-54.4)
A moderate amount	11.9%	(9.0-14.9)	4.6%	(1.7-7.4)
A lot	7.1%	(5.1-9.1)	5.1%	(0.1-10.0)

During the past 12 months, would you say you limited your usual activities due to asthma not at all, a little, a moderate amount, or a lot?  
 Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 35: Percentage of children with active asthma who missed school/daycare in past 12 months due to asthma by number of days, Illinois, 2007-2009

	<b>School</b>	<b>95% CI</b>	<b>Daycare</b>	<b>95% CI</b>
None	45.3%	(34.1-56.5)	38.7%	(8.4-69.1)
<1x per month	46.9%	(35.6-58.0)	47.1%	(15.3-78.9)
1-4x per month	7.9%	(1.7-14.0)	14.2%	(0.0-35.5)
>4x per month	0.0%		0.0%	

During the past 12 months, about how many days of school did he/she miss because of his/her asthma?  
 During the past 12 months, about how many days of daycare did he/she miss because of his/her asthma?  
 Source: Child Asthma Callback Survey, 2007-2009

Data for Figure 36: Percentage of adults with active asthma and work-related asthma, Illinois, 2007-2010

	<b>Current Job</b>	<b>95% CI</b>	<b>Previous Job</b>	<b>95% CI</b>
Asthma Caused by	8.0%	(5.1-10.9)	11.9%	(9.4-14.5)
Asthma Aggravated by	17.0%	(13.1-20.8)	24.3%	(20.7-27.8)

Was your asthma caused by chemicals, smoke, fumes or dust in your current job?  
 Is your asthma made worse by chemicals, smoke, fumes or dust in your current job?  
 Was your asthma caused by chemicals, smoke, fumes or dust in any previous job you ever had?  
 Was your asthma made worse by chemicals, smoke, fumes or dust in any previous job you ever had?  
 Source: Adult Asthma Callback Survey, 2007-2010

Data for Figure 37: Percentage of adults with active asthma who have a relationship between asthma and their occupation, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>
Change or quit job due to asthma	6.1%	(4.3-7.8)
Doctor diagnosed work asthma	5.0%	(3.7-6.3)
Self-diagnosed work asthma	6.6%	(4.9-8.2)

Change or quit job due to asthma: Did you ever change or quit a job because chemicals, smoke, fumes or dust caused your asthma or made your asthma worse?

Doctor diagnosed work asthma: Were you ever told by a doctor or other medical person that your asthma was related to any job you ever had?

Self-diagnosed work asthma: Did you ever tell a doctor or other medical person that your asthma was related to any job you ever had?

Source: Adult Asthma Callback Survey, 2007-2010

Data for Figure 38: Percentage of adults and children with asthma reporting participation in various asthma care activities, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>	<b>Children</b>	<b>95% CI</b>
Asthma Course	7.0%	(4.9-9.0)	5.0%	(0.9-9.1)
Asthma Plan	28.7%	(24.8-32.7)	45.3%	(36.0-54.7)
Advised Change	40.3%	(36.1-44.5)	47.1%	(37.8-56.4)
Early Signs	64.7%	(60.6-68.7)	80.6%	(73.2-88.0)
Asthma Attack	71.8%	(68.0-75.7)	83.9%	(76.9-90.9)

Asthma Course: Have you ever taken a course or class on how to manage your asthma?

Asthma Plan: Has a doctor or health professional ever given you an asthma action plan?

Advised Change: Has a doctor or health professional ever advised you to change things in your home, school, or work to improve your asthma?

Early Signs: Has a doctor or health professional ever taught you how to recognize early signs or symptoms of an asthma episode?

Asthma Attack: Has a doctor or health professional ever taught you what to do during an asthma episode or attack?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2010

Data for Figure 39: Percentage of adults and children with asthma reporting participation in asthma medication education activities, Illinois, 2007-2010

	<b>Adults</b>	<b>95% CI</b>	<b>Children</b>	<b>95% CI</b>
Peak Flow Meter	44.8%	(40.5-49.1)	47.8%	(38.4-57.1)
Inhaler-Show	86.8%	(83.6-90.1)	80.1%	(71.6-88.6)
Inhaler-Watch	69.2%	(65.0-73.3)	67.4%	(58.4-76.4)

Peak Flow Meter: Has a doctor or health professional ever taught you how to use a peak flow meter to adjust your daily medications?

Inhaler-Show: Has a doctor or health professional ever instructed you on how to use an inhaler?

Inhaler-Watch: Has a doctor or health professional ever watched you use an inhaler?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2010

Data for Figure 40: Percent reporting using different types of medication by age group, Illinois, 2004

Age	Inhaler	95% CI	Pills	95% CI	Nebulizer	95% CI
0-4	4.1%	(0.7-7.5)	--	--	43.2%	(16.5-69.8)
5-9	10.4%	(4.9-15.9)	24.4%	(9.6-39.2)	26.5%	(11.3-41.8)
10-14	19.9%	(12.5-27.4)	14.2%	(5.6-22.8)	14.5%	(6.1-22.9)
15-17	8.4%	(4.0-12.9)	9.0%	(0.8-17.1)	6.6%	(0.2-13.1)
18-24	13.3%	(2.6-24.1)	2.4%	(0.0-5.8)	5.7%	(0.0-14.3)
25-34	36.2%	(26.8-45.6)	11.0%	(5.2-16.8)	11.4%	(4.7-18.1)
35-44	47.3%	(37.3-57.4)	16.9%	(9.3-24.5)	3.3%	(0.3-6.3)
45-54	53.5%	(45.6-61.4)	18.9%	(12.5-25.3)	11.6%	(6.3-16.9)
55-64	61.3%	(53.9-68.6)	26.0%	(18.7-33.3)	20.8%	(13.7-27.9)
65-74	51.7%	(43.6-59.8)	21.6%	(14.9-28.4)	16.8%	(10.3-23.3)
75+	62.5%	(52.7-72.4)	22.4%	(12.2-32.6)	14.7%	(7.1-22.2)

Inhaler: In the past three months, have you taken prescription asthma medicine using an inhaler?

Pills: In the past three months, have you taken any medicine in pill form for your asthma?

Nebulizer: In the past three months, were any of your asthma medicines used with a nebulizer?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2010

Data for Figure 41: Adults exposed to secondhand smoke by asthma status, Illinois, 2011

	All Adults		Never Asthma		Lifetime Asthma	
	95% CI		95% CI		95% CI	
At Work	16.0%	(14.0-17.9)	15.9%	(13.8-18.1)	16.1%	(10.2-22.0)
At Home	10.5%	(9.3-11.6)	10.1%	(8.9-11.3)	13.3%	(9.0-17.6)
Indoor Public Place	8.9%	(7.8-10.1)	8.5%	(7.3-9.7)	12.1%	(8.3-15.9)
Outdoor Public Place	35.2%	(33.3-37.1)	34.9%	(32.9-36.9)	37.8%	(31.8-43.9)

At Work: During the past seven days on how many days did you breathe the smoke from someone else who was smoking at work?

At Home: Not counting decks, porches or garages, during the past seven days on how many days did someone other than you smoke tobacco inside your home while you were at home?

Indoor Public Place: Not counting times while you were at work, during the past seven days on how many days did you breathe the smoke from someone else who was smoking in an indoor public place?

Outdoor Public Place: Not counting times while you were at work, during the past seven days on how many days did you breathe the smoke from someone else who was smoking in an outdoor public place?

Source: Illinois Adult Tobacco Survey, Illinois Department of Public Health, 2011

Data for Figure 42: Youth in car with someone smoking by asthma status, Illinois, 2010

	Middle School	95% CI	High School	95% CI
All Students	29.8%	(26.9-32.7)	44.1%	(40.7-47.5)
No Asthma	28.2%	(25.0-31.4)	42.3%	(38.5-46.0)
Lifetime Asthma	35.4%	(27.9-42.9)	46.2%	(38.8-53.7)
Current Asthma	34.8%	(26.3-43.2)	54.0%	(44.6-63.4)
Asthma Attack	46.8%	(36.2-57.4)	56.4%	(43.7-69.1)

During the past seven days, on how many days did you ride in a car with someone who was smoking cigarettes?

Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

Data for Figure 43: Youth in same room as someone smoking by asthma status, Illinois, 2010

	Middle School	95% CI	High School	95% CI
All Students	44.1%	(40.7-47.5)	58.1%	(54.8-61.4)
No Asthma	41.2%	(37.6-44.8)	56.3%	(52.5-60.1)
Lifetime Asthma	52.4%	(43.7-61.0)	62.5%	(55.4-69.6)
Current Asthma	43.4%	(36.2-54.5)	61.7%	(52.4-71.1)
Asthma Attack	50.8%	(40.2-61.4)	69.6%	(58.2-81.1)

During the past seven days, on how many days were you in the same room with someone who was smoking cigarettes?

Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

Data for Figure 44: Smoking allowed in home of youth by asthma status, Illinois, 2010

	Middle School	95% CI	High School	95% CI
All Students	24.8%	(21.7-27.9)	27.8%	(24.8-30.8)
No Asthma	22.6%	(19.6-25.5)	26.7%	(23.4-30.1)
Lifetime Asthma	32.2%	(22.2-42.2)	28.7%	(22.1-35.2)
Current Asthma	23.1%	(16.3-30.0)	33.2%	(24.3-42.1)
Asthma Attack	26.9%	(17.6-36.1)	27.9%	(16.3-39.5)

Which of these best describes the rules about smoking inside the house where you live?

Source: Illinois Youth Tobacco Survey, Illinois Department of Public Health, 2010.

Data for Figure 45: Percentage of adults and children reporting infrastructure environmental triggers, Illinois, 2007-2010

	Adults	95% CI	Children	95% CI
Bedroom Carpeted	69.4%	(65.5-73.3)	71.7%	(62.2-81.2)
Gas Cooking	70.9%	(67.2-74.7)	78.0%	(71.0-85.1)
Fireplace	16.4%	(13.1-19.7)	18.0%	(11.6-24.5)
Gas Appliance	7.2%	(4.9-9.5)	2.5%	(0.7-4.4)

Bedroom Carpeted: Do you have carpeting or rugs in your bedroom?

Gas Cooking: Is gas used for cooking?

Fireplace: Is a wood burning fireplace or wood burning stove used in your home?

Gas Appliance: Are unvented gas logs, unvented gas fireplace or unvented gas stove used in your home?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 46: Percentage of adults and children reporting modifiable home environmental triggers, Illinois, 2007-2010

	Adults	95% CI	Children	95% CI
Smoke in Home	17.7%	(14.4-21.1)	7.1%	(3.2-11.1)
Mold in Home	9.7%	(7.5-12.0)	8.5%	(3.9-13.1)
Indoor Pets	53.7%	(49.4-58.0)	61.4%	(52.0-70.7)
Bedroom Pets	40.8%	(36.6-45.1)	40.1%	(31.2-49.0)
Cockroach in Home	4.0%	(2.1-5.8)	0.2%	(0.0-0.5)
Mice or Rats in Home	7.4%	(4.8-10.0)	1.9%	(0.0-3.8)

Smoke in Home: In the past week, has anyone smoked inside your home?

Mold in Home: In the past 30 days, has anyone seen or smelled mold or a musty odor inside your home? Do not include mold on food.

Indoor Pets: Does your household have pets such as dogs, cats, hamsters, birds or other feathered or furry pets that spend time indoors?

Bedroom Pets: Are pets allowed in your bedroom?

Cockroach in Home: In the past 30 days, has anyone seen a cockroach inside your home?

Mice or Rats in Home: In the past 30 days, has anyone seen mice or rats inside your home? Do not include mice or rats kept as pets.

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 47: Percentage of adults and children reporting allergen control measures, Illinois, 2007-2010

	Adults	95% CI	Children	95% CI
Air Cleaner	35.2%	(31.0-39.3)	29.4%	(21.2-37.6)
Dehumidifier	36.0%	(31.8-40.2)	40.0%	(30.7-49.2)
Kitchen Fan	54.8%	(50.6-59.0)	66.4%	(57.2-75.6)
Bathroom Fan	61.6%	(57.4-65.8)	59.8%	(50.5-69.1)
Mattress Cover	27.2%	(23.5-30.9)	33.7%	(25.0-42.3)
Pillow Cover	23.6%	(20.2-27.0)	30.4%	(22.1-38.7)

Air Cleaner: Is an air cleaner or purifier regularly used inside your home?

Dehumidifier: Is a dehumidifier regularly used to reduce moisture inside your home?

Kitchen Fan: Is an exhaust fan that vents to the outside used regularly when cooking in your kitchen?

Bathroom Fan: In your bathroom, do you regularly use an exhaust fan that vents to the outside?

Mattress Cover: Do you use a mattress cover that is made especially for controlling dust mites?

Pillow Cover: Do you use a pillow cover that is made especially for controlling dust mites?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 48: School and daycare asthma management and environmental triggers, Illinois, 2007-2009

	School	95% CI	Daycare	95% CI
Action Plan	31.4%	(20.9-41.8)	35.6%	(5.9-65.3)
Pets	3.3%	(0.1-6.5)	18.6%	(0.0-38.3)
Mold	2.3%	(0.3-4.2)	6.5%	(0.0-19.8)
Medication Allowed	55.7%	(44.6-66.8)	--	
Smoking Not Allowed	--		84.6%	(65.8-100)

Action Plan: Does your child have a written asthma action plan or asthma management plan on file at school/daycare?

Pets: Are there any pets such as dogs, cats, hamsters, birds or other feathered or furry pets in his/her classroom/room?

Mold: Are you aware of any mold problems in your child's school/daycare?

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

Smoking Not Allowed: Is smoking allowed at his/her daycare?

Source: Child Asthma Callback Survey, 2007-2009

Data for Figure 49: Percentage of adults and children with asthma with a routine checkup in the past 12 months, Illinois, 2007-2010

	Adults	95% CI	Children	95% CI
Routine Checkup in past 12 months	45.4%	(40.9-50.0)	64.7%	(54.6-74.7)

Routine Checkup: During the past 12 months, how many times did you see a doctor or other health professional for a routine checkup for your asthma?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 50: Insurance status of adults and children with asthma, Illinois, 2007-2010

	Adults	95% CI	Children	95% CI
Insurance	89.8%	(87.2-92.5)	99.6%	(99.1-100.0)
Insurance Gap	16.1%	(12.7-19.5)	2.1%	(0.0-4.2)

Insurance: Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare or Medicaid?

Insurance Gap: During the past 12 months, was there any time that you did not have any health insurance or coverage?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 51: Percentage of adults and children with asthma that could not access health care due to cost in the past 12 months, Illinois, 2007-2010

	Adults	95% CI	Children	95% CI
Primary Doctor	11.2%	(8.0-14.4)	1.8%	(0.0-3.9)
Specialist	6.7%	(3.9-9.6)	1.6%	(0.0-3.7)
Medication	17.8%	(13.4-22.2)	2.2%	(0.0-4.5)

Primary Doctor: Was there a time in the past 12 months when you needed to see your primary care doctor for your asthma but could not because of the cost?

Specialist: Was there a time in the past 12 months when you were referred to a specialist for asthma care but could not go because of the cost?

Medication: Was there a time in the past 12 months when you needed to buy medication for your asthma but could not because of the cost?

Source: Adult Asthma Callback Survey, 2007-2010; Child Asthma Callback Survey, 2007-2009

Data for Figure 52: Percentage of adults receiving preventative vaccinations, Illinois, 2011

	All Adults	95% CI	Current Asthma	95% CI
Seasonal Flu Vaccination	35.7%	(29.8-41.6)	33.8%	(32.0-35.6)
Pneumococcal Vaccination	27.1%	(25.4-28.9)	37.2%	(31.0-43.4)

Seasonal Flu Vaccination: During the past 12 months, have you had a flu shot or flu vaccine that was sprayed in your nose?

Pneumococcal Vaccination: Have you ever had a pneumonia vaccination?

Source: Illinois Behavioral Risk Factor Surveillance System, Illinois Department of Public Health, 2011

Data for Figure 53: Percentage of adults reporting visiting ED due to asthma in the past 12 months, Illinois, 2007-2010

	%	95% CI
<b>Sex</b>		
Female	3.7%	(1.4-6.0)
Male	10.2%	(6.8-13.6)
<b>Age (Adult)</b>		
18-34 Years	4.5%	(0.6-8.5)
35-44 Years	9.1%	(3.2-15.0)
45-54 Years	13.7%	(7.7-19.7)
55-64 Years	7.8%	(3.5-12.2)
65 and Above	5.9%	(2.9-8.9)
<b>Race</b>		
White	5.3%	(3.4-7.2)
Black	15.3%	(6.7-23.9)
<b>Education</b>		
Non-High School Graduate	4.6%	(0.0-10.4)
High School Graduate	9.7%	(4.5-14.9)
Some College	7.3%	(3.5-11.0)
College Graduate	6.8%	(3.2-10.5)
<b>Household Income</b>		
<\$15K	19.1%	(9.3-28.9)
\$15,000 - 24,999	9.7%	(4.0-15.4)
\$25,000 - 34,999	1.3%	(0.0-2.6)
\$35,000 - 49,999	5.3%	(0.0-11.7)
\$50K and Above	6.4%	(3.2-9.6)
<b>Total</b>	<b>7.5%</b>	<b>(5.2-9.7)</b>

During the past 12 months, have you had to visit an emergency department or urgent care center because of your asthma?

Source: Adult Asthma Callback Survey, 2007-2010

Data for Figure 54: Percentage of children reporting visiting hospital emergency department due to asthma in the past 12 months, Illinois, 2007-2009

	<b>%</b>	<b>95% CI</b>
<b>Sex</b>		
Female	15.3%	(4.0-26.6)
Male	13.4%	(6.0-20.8)
<b>Age (Child)</b>		
0 - 4	37.4%	(11.6-63.3)
5 - 9	17.8%	(4.3-31.2)
10 - 14	12.3%	(2.8-21.9)
15 - 17	1.6%	(0.0-3.4)
<b>Race</b>		
White	12.6%	(5.9-19.3)
Black	23.4%	(3.5-43.3)
<b>Total</b>	<b>14.0%</b>	<b>(7.8-20.2)</b>

During the past 12 months, has your child had to visit an emergency department or urgent care center because of his/her asthma?  
 Source: Child Asthma Callback Survey, 2007-2009

Data for Figure 55: Percentage of adults with current asthma who have visited the hospital emergency department in the past 12 months by degree of activity limitation, Illinois, 2007-2010

	<b>No ED Visit</b>	<b>95% CI</b>	<b>ED Visit</b>	<b>95% CI</b>
None	95.9%	(92.7-99.0)	4.1%	(1.0-7.3)
A little	88.7%	(83.0-94.4)	11.3%	(5.6-17.0)
A moderate	84.1%	(75.9-92.4)	15.9%	(7.6-24.2)
A lot	68.8%	(54.2-83.3)	30.9%	(16.4-45.3)

During the past 12 months, have you had to visit an emergency department or urgent care center because of your asthma?  
 Source: Adult Asthma Callback Survey, 2007-2010

Data for Figure 56: Percentage of adults visiting hospital emergency department in the past 12 months by asthma symptoms in past 30 days due to asthma, Illinois, 2007-2010

	<b>Day Symptoms</b>	<b>95% CI</b>	<b>Night Symptoms</b>	<b>95% CI</b>
None	5.0%	(0.0-10.2)	7.1%	(3.5-10.7)
<1x per Week	3.8%	(0.7-6.9)	16.5%	(5.0-27.9)
1-2x per Week	14.9%	(4.9-24.9)	31.2%	(12.0-50.4)
>2-4x per Week	23.1%	(13.6-32.6)	20.8%	(7.5-34.1)
Every day	10.9%	(5.5-16.1)	32.0%	(13.0-51.0)

During the past 12 months, have you had to visit an emergency department or urgent care center because of your asthma?  
 Day Symptoms: During the past 30 days, on how many days did you have any symptoms of asthma?  
 Night Symptoms: During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?  
 Source: Adult Asthma Callback Survey, 2007-2010

Data for Figure 57: Age-adjusted<sup>†</sup> asthma hospitalization<sup>‡</sup> rates per 10,000, Illinois vs. U.S., 2000-2011

Year	ILL.	95% CI	U.S.	95% CI
2000	18.2		16.7	
2001	16.7		16.0	
2002	16.6		16.8	
2003	17.2		19.8	
2004	15.7		17.0	
2005	15.9		16.6	
2006	15.8	15.6-16.0	14.9	
2007	14.4	14.2-14.6	15.2	
2008	15.6	15.4-15.8	14.9	
2009	16.1	15.9-16.3	15.7	
2010	14.8	14.6-15.0	14.3	
2011	14.6	14.3-14.8	*	

Source: Illinois- Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2000-2011.  
 U.S. Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Discharge Survey, 2000-2010

Data for Figure 58: Age-adjusted<sup>†</sup> asthma hospitalizations<sup>‡</sup> rates per 10,000 by sex, Illinois vs. U.S., 2000-2011

Year	Number	ILL.				U.S.				
		Female		Male		Female		Male		
		Rate	95% CI	Number	Rate	95% CI	Rate	95% CI	Rate	95% CI
2000	13,085	20.6		9,448	15.5		18.8		14.5	
2001	12,758	20.0		8,065	13.2		18.5		13.4	
2002	12,565	19.6		8,143	13.2		19.7		13.9	
2003	13,035	20.2		8,614	13.9		23.2		16.3	
2004	11,919	18.4		7,858	12.6		19.4		14.5	
2005	12,433	19.2		7,760	12.4		19.7		13.3	
2006	12,330	18.4	18.1-18.8	7,904	12.7	12.4-13.0	17.6		12.1	
2007	11,180	16.8	16.5-17.1	7,330	11.8	11.5-12.1	17.9		12.3	
2008	12,457	18.8	18.5-19.1	7,726	12.4	12.1-12.7	18.1		11.6	
2009	12,814	19.3	18.9-19.6	8,081	12.9	12.6-13.2	18.5		12.7	
2010	11,845	17.7	17.3-18.0	7,254	11.8	11.5-12.0	17.7		10.7	
2011	11,797	17.4	17.1-17.8	7,171	11.5	11.2-11.8				

Source: Illinois- Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2000-2011.  
 U.S. Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Discharge Survey, 2000-2010

Data for Figure 59: Age-specific asthma hospitalization rates per 10,000, Illinois, 2000-2011

Year	<5		5-14		15-34		35-64		65+	
	Num	Rate								
2000	4,253	48.5	3,944	21.5	3,626	10.2	7,615	16.3	3,095	20.6
2001	3,733	42.6	2,565	14.0	3,103	8.7	7,940	16.8	3,482	23.2
2002	3,444	39.3	2,580	14.1	3,014	8.4	8,179	17.0	3,491	23.2
2003	3,423	38.7	2,543	14.0	3,150	8.8	8,586	17.7	3,947	26.1
2004	3,172	35.6	2,220	12.3	2,491	6.9	7,973	16.3	3,921	25.8
2005	2,726	30.4	2,223	12.4	2,443	6.8	8,512	17.2	4,289	28.0
2006	2,966	33.4	2,282	12.9	2,309	6.4	8,494	16.9	4,183	27.2
2007	2,443	27.4	1,940	11.1	1,974	5.4	8,221	16.3	3,932	25.4
2008	2,468	27.6	1,954	11.2	2,074	5.7	9,206	18.2	4,481	28.4
2009	2,530	28.3	2,357	13.5	2,344	6.5	9,514	18.8	4,150	26.0
2010	2,410	28.9	2,184	12.6	1,992	5.6	8,516	16.8	3,997	24.8
2011	2,437	29.4	2,120	12.3	1,823	5.1	8,553	16.8	4,035	24.6

Source: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2000-2011.

Data for Figure 60: Number of asthma hospitalizations by month of admission, Illinois, 2011

Year	Hospitalizations
January	1,809
February	1,565
March	1,883
April	1,701
May	1,613
June	1,352
July	1,060
August	1,103
September	1,787
October	1,862
November	1,634
December	1,599

Source: Inpatient Hospital Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2011.

Data for Figure 61: Distribution of primary payer for asthma hospitalizations, Illinois, 2011

Payer	Percent
Medicare	29.2%
Medicaid	34.4%
Private Insurance	26.1%
Uninsured	9.5%
Other	0.79%

Source: Healthcare Cost and Utilization Project, State Inpatient Databases 2011, Agency for Healthcare Research and Quality (AHRQ), based on data collected by the Illinois Department of Public Health and provided to AHRQ.

Data for Figure 62: Annual age-adjusted asthma hospital emergency department visit rate per 10,000, Illinois vs. U.S., 2005-2011

Year	Number	ILL.		U.S.	
		Rate	95% CI	Rate	95% CI
2005				61.7	54.3-69.1
2006				55.3	48.6-62.0
2007				59.6	52.0-67.2
2008				64.5	56.1-72.9
2009	74,448	58.7	58.3-59.1	69.7	60.7-78.7
2010	71,040	56.9	56.4-57.3		
2011	72,810	58.3	57.9-58.8		

Sources: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2009-2011; Moorman JE, et al. National Surveillance of Asthma: United States, 2001–2010. National Center for Health Statistics. Vital Health Stat 3(35). 2012.

Data for Figure 63: Percentage of asthma hospital emergency department visits by demographics, Illinois, 2011

	%	95% CI
<b>Sex</b>		
Female	52.2%	51.8-52.5
Male	47.8%	47.5-48.2
<b>Age (Adult)</b>		
<5 Years	13.4%	13.2-13.6
5-14 Years	20.0%	19.7-20.3
15-34 Years	28.3%	27.9-28.6
35-64 Years	34.7%	34.3-35.0
65 and Above	3.7%	3.6-3.8
<b>Race</b>		
White	34.6%	34.3-35.0
Black	52.1%	51.8-52.5
Other	1.5%	1.4-1.6
Unknown	11.7%	11.5-12.0
<b>Ethnicity</b>		
Hispanic	12.8%	12.6-13.1
Non-Hispanic	87.2%	86.9-87.4

Source: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2011

Data for Figure 64: Annual age-adjusted asthma hospital emergency department visit rate per 10,000 by sex, Illinois vs. U.S., 2005-2011

Year	Number	ILL.				U.S.				
		Female Rate	95% CI	Male Rate	95% CI	Female Rate	95% CI	Male Rate	95% CI	
2005						68.3	57.5-79.1	54.7	45.1-64.3	
2006						62.2	53.0-71.4	47.8	39.0-56.6	
2007						67.7	57.1-78.3	50.5	41.1-59.9	
2008						67	56.6-77.4	60.7	48.9-72.5	
2009	38,699	59.5	58.9-60.1	35,744	55.9	55.3-56.5	69.2	57.6-80.8	69.5	56.4-82.6
2010	37,008	58.9	58.3-59.5	34,031	54.5	53.9-55.1				
2011	37,984	60.4	59.8-61.0	34,825	56.0	55.4-56.6				

Sources: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2009-2011; Moorman JE, et al. National Surveillance of Asthma: United States, 2001–2010. National Center for Health Statistics. Vital Health Stat 3(35). 2012.

Data for Figure 65: Age-specific crude asthma hospital emergency department rates, Illinois, 2009-2011

Year	<5			5-14			15-34			35-64			65+		
	Num	Rate	95% CI	Num	Rate	95% CI	Num	Rate	95% CI	Num	Rate	95% CI	Num	Rate	95% CI
2009	10,215	114.3	112.0-116.5	15,111	85.3-86.7	85.3-88.1	22,380	61.8	61.0-62.6	24,550	48.5	47.9-49.2	2,187	13.7	13.1-14.3
2010	9,558	118.5	116.1-120.8	14,220	81.9	80.5-83.2	21,134	59	58.2-59.8	23,435	46.2	45.6-46.8	2,365	14.6	14.1-15.2
2011	9,756	117.8	115.5-120.1	14,511	84.3	82.9-85.7	20,572	57.4	56.6-58.2	25,252	49.6	49.0-50.2	2,685	16.4	15.7-17.0

Source: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2009-2011

Data for Figure 66: Annual age-adjusted asthma emergency department visit rate per 10,000 by race, Illinois, 2009-2011

Year	White			Black		
	Number	Rate	95% CI	Number	Rate	95% CI
2009	26,724	26.8	26.5-27.2	38,686	190.9	189.0-192.8
2010	25,249	26.0	25.7-26.3	37,321	186.1	184.2-188.0
2011	25,201	26.0	25.6-26.3	37,969	190.3	188.4-192.2

Source: Discharge Data; Office of Policy, Planning and Statistics; Illinois Department of Public Health, 2009-2011

Data for Figure 67: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup>, Illinois vs. U.S., 2000-2010

Year	Number	ILL. Rate	95% CI	Number	U.S. Rate	95% CI
2000	247	20.2	(17.7-22.7)	4,487	16.1	(15.6-16.6)
2001	243	19.7	(17.2-22.2)	4,269	15.1	(14.6-15.5)
2002	248	20.0	(17.5-22.5)	4,261	14.9	(14.4-15.3)
2003	210	16.8	(14.5-19.1)	4,099	14.1	(13.6-14.5)
2004	179	14.4	(12.3-16.5)	3,816	12.9	(12.5-13.3)
2005	209	16.4	(14.1-18.6)	3,884	12.9	(12.5-13.3)
2006	169	13.1	(11.1-15.1)	3,613	11.8	(11.4-12.2)
2007	149	11.5	(9.7-13.4)	3,447	11.1	(10.7-11.5)
2008	186	14.3	(12.2-16.3)	3,397	10.8	(10.4-11.1)
2009	173	13.3	(11.3-15.3)	3,388	10.6	(10.2-10.9)
2010	183	13.9	(11.8-15.9)	3,404	10.5	(10.1-10.8)

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment.

<sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

Data for Figure 68: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup> by sex, Illinois, 2000-2010

Year	Female			Male		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	144	21.5	(17.9-25.0)	103	18.0	(14.4-21.5)
2001	132	19.3	(16.0-22.6)	111	19.7	(16.0-23.5)
2002	154	22.3	(18.7-25.8)	94	16.2	(13.0-19.8)
2003	136	19.4	(16.1-22.6)	74	12.8	(10.0-16.2)
2004	108	15.8	(12.8-18.8)	71	12.4	(9.7-15.7)
2005	130	17.8	(14.7-20.8)	79	13.6	(10.7-17.0)
2006	90	12.5	(10.0-15.4)	79	13.6	(10.7-17.1)
2007	90	12.3	(9.9-15.2)	59	9.7	(7.3-12.5)
2008	102	13.9	(11.2-16.7)	84	14.4	(11.5-17.9)
2009	97	13.6	(11.0-16.6)	76	12.9	(10.1-16.2)
2010	109	15.0	(12.1-17.9)	74	12.1	(9.5-15.3)

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment.

<sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

Data for Figure 69: Age-specific asthma mortality<sup>†</sup> rates<sup>§</sup>, Illinois, 2000-2010

Year	<5		5-14		15-34		35-64			65+		
	Num	Rate	Num	Rate	Num	Rate	Num	Rate	95%CI	Num	Rate	95%CI
2000	*		17	44	12.4	(9.0-16.6)	91	19.6	(15.8-24.0)	92	61.3	(49.4-75.2)
2001	*		*	39	11.0	(7.8-15.0)	102	21.6	(17.4-25.8)	91	60.6	(48.8-74.4)
2002	*		12	35	9.9	(6.9-13.7)	107	22.4	(18.2-26.6)	93	62.0	(50.1-76.0)
2003	*		*	27	7.6	(5.0-11.1)	87	18.1	(14.5-22.3)	89	59.1	(47.5-72.7)
2004	*		*	20	5.6	(3.4-8.7)	83	17.1	(13.6-21.2)	70	46.3	(36.1-58.5)
2005	*		*	25	7.1	(4.6-10.4)	81	16.5	(13.1-20.5)	93	61.3	(49.5-75.1)
2006	*		*	28	7.9	(5.3-11.4)	79	15.9	(12.6-19.8)	55	36.1	(27.2-47.0)
2007	*		*	22	6.2	(3.9-9.4)	61	12.2	(9.3-15.7)	60	38.9	(29.7-50.1)
2008	*		*	28	7.9	(5.2-11.4)	75	14.9	(11.7-18.7)	75	47.8	(37.6-59.9)
2009	*		*	23	6.4	(4.1-9.6)	83	16.4	(13.1-20.4)	57	35.8	(27.1-46.4)
2010	*		*	28	7.8	(5.2-11.3)	88	17.4	(13.9-21.4)	56	34.8	(26.3-45.2)

<sup>†</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000

\*Data suppressed due to small numbers of death.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database, released 2012.

Data for Figure 70: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup> by race, Illinois, 2000-2009

Year	White			Black			Other		
	Number	Rate	95% CI	Number	Rate	95% CI	Number	Rate	95% CI
2000	130	12.6	(10.4-14.8)	117	65.6	(53.5-77.8)	*	*	*
2001	139	13.3	(11.1-15.6)	103	59.7	(47.9-71.5)	*	*	*
2002	128	12.2	(10.1-14.3)	115	64.9	(52.8-76.9)	*	*	*
2003	122	11.4	(9.4-13.4)	84	47.9	(38.0-59.5)	*	*	*
2004	87	8.2	(6.6-10.1)	91	53.3	(42.7-65.8)	*	*	*
2005	110	10.1	(8.2-12.0)	96	55.3	(44.6-67.8)	*	*	*
2006	85	7.9	(6.3-9.8)	82	45.5	(36.0-56.7)	*	*	*
2007	66	6.0	(4.6-7.6)	81	45.3	(35.8-56.5)	*	*	*
2008	100	9.1	(7.3-10.9)	83	45.6	(36.1-56.8)	*	*	*
2009	76	7.0	(5.5-8.8)	87	45.8	(36.6-56.7)	10	*	*
2010	100	9.1	(7.3-10.9)	80	43.1	(34.1-53.8)	*	*	*

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment.

<sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000

\*Data suppressed due to small numbers of death.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2010 on CDC WONDER Online Database released 2012.

## Appendix B

## State and County Population Data

County	Adult Lifetime	Child Lifetime	Crude Hospitalization	County	Adult Lifetime	Child Lifetime	Crude Hospitalization
Adams	15.7	10.1	24.89	Lee	17	15.7	21.37
Alexander	18	*	*	Livingston	14.6	22.8	15.66
Bond	11.1	*	16.88	Logan	18.5	13.0	22.11
Boone	13.9	15.6	17.17	McDonough	21.6	*	38.77
Brown	11.6	11.8	20.18	McHenry	15.5	13.4	370.24
Bureau	12.2	7.7	20.58	McLean	18	13.9	197.68
Calhoun	9.9	12.2	*	Macon	13.8	*	106.40
Carroll	12.6	16.6	11.70	Macoupin	14.6	16.9	2.72
Cass	13.1	17.6	27.86	Madison	13.7	16.0	35.68
Champaign	10.9	21.0	20.19	Marion	14.9	20.9	21.58
Chicago	11.0	8.6	**	Marshall	12.3	8.4	5.86
Christian	14.7	16.5	31.90	Mason	17	*	1.08
Clark	10.5	7.8	23.88	Massac	13.5	15.9	21.05
Clay	14	12.6	15.92	Menard	13.7	17.6	15.74
Clinton	6.5	14.2	6.89	Mercer	14.1	21.0	14.00
Coles	12.6	*	18.01	Monroe	7.2	14.3	12.74
Cook	15.0	14.8	44.32	Montgomery	6.9	9.1	20.60
Crawford	12	6.8	15.64	Morgan	13.8	12.0	19.97
Cumberland	14.9	*	24.44	Moultrie	13.9	*	22.90
DeKalb	18.5	15.6	17.21	Ogle	13.1	9.0	19.07
De Witt	15.5	17.8	16.30	Peoria	12.8	13.5	31.90
Douglas	8.4	18.9	17.02	Perry	9.7	*	12.53
DuPage	10.4	11.7	22.89	Piatt	16.1	16.8	13.75
Edgar	14.6	14.2	16.15	Pike	15	19.3	25.56
Edwards	13.9	12.2	*	Pope	5.1	*	109.62
Effingham	10.8	89.2	16.94	Pulaski	13.5	*	9.74
Fayette	16.8	10.1	15.36	Putnam	12.2	13.7	23.31
Ford	20.1	19.4	14.20	Randolph	12.4	20.6	17.92
Franklin	16.4	*	21.49	Richland	11.4	10.9	25.26
Fulton	10.9	15.9	12.68	Rock Island	12.8	17.4	22.91
Gallatin	8.5	*	32.21	St. Clair	14.5	17.2	395.30
Greene	16.8	19.0	16.56	Saline	14.9	20.6	3.55
Grundy	11.2	16.6	20.97	Sangamon	20.5	22.4	258.90
Hamilton	18.4	26.1	23.65	Schuyler	12.2	9.0	*
Hancock	8.3	14.8	14.66	Scott	14	*	*
Hardin	22.8	*	212.96	Shelby	9.3	10.4	117.65
Henderson	12.6	15.9	*	Stark	10.3	5.8	*
Henry	11.2	15.5	14.86	Stephenson	12	15.0	24.94
Iroquois	14	18.7	36.68	Tazewell	11.7	9.0	19.79
Jackson	14	15.5	18.93	Union	12.8	12.3	20.22
Jasper	9.3	4.5	12.37	Vermilion	13.9	11.8	31.36
Jefferson	19.5	8.9	14.94	Wabash	9.6	13.8	*
Jersey	12.5	18.3	8.27	Warren	13.1	8.7	*
Jo Daviess	13.2	10.5	*	Washington	7.7	8.9	10.87
Johnson	8	9.4	24.64	Wayne	15.2	15.4	13.13
Kane	14.4	10.8	18.61	White	15.1	10.5	4.77
Kankakee	15.8	23.4	42.75	Whiteside	15.5	15.2	25.13
Kendall	10.8	16.6	12.64	Will	12.7	16.2	31.01
Knox	13.6	*	27.78	Williamson	15.0	*	23.96
Lake	12.7	12.1	24.55	Winnebago	11.3	13.4	34.21
La Salle	12.3	9.3	22.03	Woodford	7.7	13.1	10.60
Lawrence	11.7	20.7	6.53				

Note: Chicago and Cook County adult prevalence ever is from 2009 annual BRFSS

\*Data suppressed due to small sample size

\*\*Data not available

Source: Illinois Behavioral Risk Factor Surveys, Illinois Department of Public Health, 2007-2009

Hospitalization Source: Illinois Department of Public Health, Hospital Discharge Data; Indiana State Department of Health; Kentucky Cabinet for Health and Family Services; Missouri Department of Health; Wisconsin Department of Health Services

### Illinois and U.S. population estimates by sex, age group, race and ethnicity, 2011

	Illinois Population	Illinois Population Distribution %	U.S. Population Distribution %
<b>Sex</b>			
Female	6,517,603	51.0%	50.8%
Male	6,272,579	49.0%	49.2%
<b>Age Group</b>			
<5 Years	839,616	6.6%	6.6%
5-9 Years	860,232	6.7%	6.6%
10-14 Years	879,233	6.9%	6.7%
15-19 Years	927,161	7.2%	7.2%
20-24 Years	878,738	6.9%	7.0%
25-34 Years	1,765,418	13.8%	13.3%
35-44 Years	1,752,914	13.7%	13.6%
45-54 Years	1,859,499	14.5%	14.5%
55-59 Years	791,003	6.2%	6.3%
60-64 Years	643,992	5.0%	5.3%
65-74 Years	832,339	6.5%	6.9%
75-84 Years	529,061	4.1%	4.3%
85 Years and Above	230,976	1.8%	1.7%
<b>Ethnicity</b>			
Hispanic	1,987,211	15.5%	16.1%
Non-Hispanic	10,802,971	84.5%	83.9%
<b>Race</b>			
White	9,214,977	72.0%	74.1%
Black or African American	1,859,608	14.5%	12.5%
Asian	583,302	4.6%	4.7%
American Indian and Alaska Native	25,216	0.6%	0.8%
Native Hawaiian and Other Pacific Islander	3,185	0.0%	0.2%
Some Other Race	869,769	6.8%	5.1%
Two or More Races	234,125	1.8%	2.5%
Overall Population	12,790,182	100.0%	100.0%

Source: U.S. Census Bureau; 2007-2011 American Community Survey five-year estimates

**Adult Tobacco Survey**

The Adult Tobacco Survey (ATS) is a state-administered, random-digit dialed telephone survey of the non-institutionalized U.S. population aged 18 years and older. ATS collects data on tobacco use, smoking cessation, secondhand smoke exposure, risk perception and social influences, health influences, and tobacco-related policy issues in the United States. ATS was developed primarily for evaluation of state tobacco control programs and offers states flexibility in terms of when and how often the surveys can be conducted. In Illinois, the ATS is conducted every other year on years ending in odd numbers.

**Asthma Callback Survey**

The Asthma Call-back Survey (ACBS) is an in-depth asthma survey developed and funded by the Air Pollution and Respiratory Health Branch (APRHB) in the National Center for Environmental Health (NCEH). It is conducted with Behavioral Risk Factor Surveillance System Survey (BRFSS) respondents who report an asthma diagnosis. Asthma surveillance data at the state level includes adult and child asthma prevalence from the BRFSS and in-depth state and local asthma data through implementation of the BRFSS ACBS. The ACBS was piloted in three states in 2005 and has been conducted each year since. A majority of states participate in the ACBS each year. For more information on ACBS, refer to <http://www.cdc.gov/brfss/acbs/index.htm>.

**Behavioral Risk Factor Surveillance System**

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based system of health surveys that collects information on health risk behaviors, preventive health practices and health care access primarily related to chronic disease and injury. The BRFSS is a cross-sectional telephone survey conducted by state health departments with technical and methodological assistance provided by the U.S. Centers for Disease Control and Prevention (CDC). Every year, states conduct monthly telephone surveillance using a standardized questionnaire to determine the distribution of risk behaviors and health practices among non-institutionalized adults. The states forward the responses to the CDC where the monthly data are aggregated for each state. The data are returned to the states and then published on the BRFSS website. In addition, Illinois regularly conducts risk factor surveillance of each county. The county level data is used extensively at the sub-state/local governmental areas to formulate public health policies and prevention and health promotion programs. For more information on BRFSS, refer to <http://www.cdc.gov/brfss/index.htm>.

**CDC WONDER**

CDC WONDER (Wide-ranging Online Data for Epidemiologic Research) is a menu-driven system that makes the information resources of the CDC available to public health professionals and the public at large. The Underlying Cause of Death data available on WONDER are county-level national mortality and population data spanning the years 1999-2010. Data are based on death certificates for U.S. residents. Each death certificate identifies a single underlying cause of death and demographic data. The number of deaths, crude death rates or age-adjusted death rates, and 95 percent confidence intervals and standard errors for death rates can be obtained by place of residence (total U.S., region, division, state and county), age group (single-year-of age, five-year age groups, 10-year age groups and infant age groups), race, Hispanic ethnicity, gender, year, month and week day of death, and cause-of-death. Data also are available for injury intent and injury mechanism, drug/alcohol induced causes and urbanization categories, as well as place of death and whether an autopsy was performed. For more information on CDC WONDER, refer to <http://wonder.cdc.gov/>.

**Illinois Hospital Discharge Data**

Hospital discharge data is collected from acute care general and specialty hospitals licensed by the Illinois Department of Public Health. Data consists of UB04 elements related to condition, treatment, admission and discharge status, urgency of event, expected payer, length of stay, charges and patient demographic information. Results indicate individual health care events, not individual patients. A given person may visit the same or different health care facility for follow-up of the same condition or seeking assistance for a different ailment. Annual inpatient case volume of approximately 1.6 million cases is currently stored in Department databases. Data years from 1987 through 2011 are used to support a variety of departmental and health care stakeholder initiatives. More information can be found on the Hospital Report Card website at <http://www.healthcarereportcard.illinois.gov>.

#### **Healthcare Cost and Utilization Project State Inpatient Databases**

Healthcare Cost and Utilization Project State Inpatient Databases are accessed through HCUPnet. HCUPnet is part of the Healthcare Cost and Utilization Project (HCUP) of the Agency for Healthcare Research and Quality (AHRQ). HCUPnet generates statistics using data from Healthcare Cost and Utilization Project's Nationwide Inpatient Sample (NIS), the Kids' Inpatient Database (KID), the State Inpatient Databases (SID) and the State Emergency Department Databases (SEDD). These databases and HCUPnet would not be possible without the statewide data collection projects that provide data to Healthcare Cost and Utilization Project. State statistics are based on data collected by the Illinois Department of Public Health and provided to AHRQ. For more information on HCUPnet, refer to <http://hcupnet.ahrq.gov/>.

#### **National Hospital Discharge Survey**

The National Hospital Discharge Survey (NHDS), conducted from 1965 to 2010, is a national probability survey designed to meet the need for information on characteristics of inpatients discharged from non-federal short-stay hospitals in the United States. Only hospitals with an average length of stay of fewer than 30 days for all patients, general hospitals or children's general hospitals are included in the survey. Federal, military and U.S. Department of Veterans Affairs hospitals, as well as hospital units of institutions, such as prison hospitals, and hospitals with fewer than six beds staffed for patient use, are excluded. Items that relate to the personal characteristics of the patient are collected. These items include age, sex, race, ethnicity, marital status and expected sources of payment. Administrative items, such as admission, discharge dates (which allow calculation of length of stay) and discharge status are also collected. Medical information about patients includes diagnoses and procedures coded to the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). For more information on NHDS, refer to <http://www.cdc.gov/nchs/nhds.htm>.

#### **Youth Risk Behavior Survey**

The Youth Risk Behavior Survey (YRBS) focuses on priority health-risk behaviors established during youth that result in the most significant mortality, disability, and social problems during both youth and adulthood. Topics include nutrition, tobacco use, alcohol and other drug use, physical activity, injuries, and sexual behavior resulting in sexually transmitted diseases and pregnancy. It uses a controlled sample design so data may be weighted for analysis. YRBS includes a national school-based survey conducted by CDC and state, territorial, and tribal; and local surveys conducted by state, territorial, local education and health agencies, and tribal governments. For more information on YRBS, refer to <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>.

#### **Youth Tobacco Survey**

The Youth Tobacco Survey (YTS) is a state-administered, school-based survey of students in grades six through 12. YTS collects data on tobacco use, tobacco knowledge and attitudes, exposure to tobacco media and advertising, access to tobacco, tobacco related school curricula, secondhand smoke exposure, tobacco initiation and tobacco cessation. YTS was developed to provide states with the data needed to design, implement and evaluate comprehensive tobacco control programs that work to prevent young people from beginning tobacco use and help those who have already started using tobacco to quit. In Illinois, the YTS is conducted every other year on years ending in even numbers. For more information on YTS, refer to [http://www.cdc.gov/tobacco/data\\_statistics/surveys/yts/index.htm](http://www.cdc.gov/tobacco/data_statistics/surveys/yts/index.htm).

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