



# The ASTHMA EPIDEMIOLOGY Update

Fall 2007

## A Snapshot of Asthma in North Carolina

### Introduction

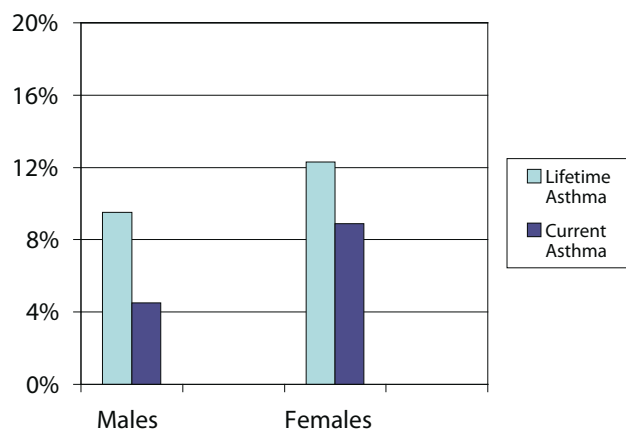
In 2005, about 10.1 percent of adults in North Carolina had been diagnosed with asthma at some point in their lives (lifetime asthma prevalence) and about 6.5 percent still had this chronic condition (current asthma prevalence). These figures are lower than the U.S. averages of 10.7 percent and 7.02 percent respectively. In 2004, asthma was responsible for 10,753 hospitalizations in North Carolina, resulting in a rate of 125.9 per 100,000 population, compared to the national rate of 170 per 100,000. In 2004, there were 113 deaths due to asthma in North Carolina (13.50 per 1,000,000) while 3,816 (12.77 per 1,000,000) were reported nationally. This issue of *The Asthma Epidemiology Update* presents a snapshot of asthma prevalence, hospitalization, and mortality in North Carolina.

### Prevalence

The most recent data for North Carolinians ages 18 and older show a lifetime asthma prevalence rate of 10.9 percent and current asthma prevalence rate of 6.8 percent in

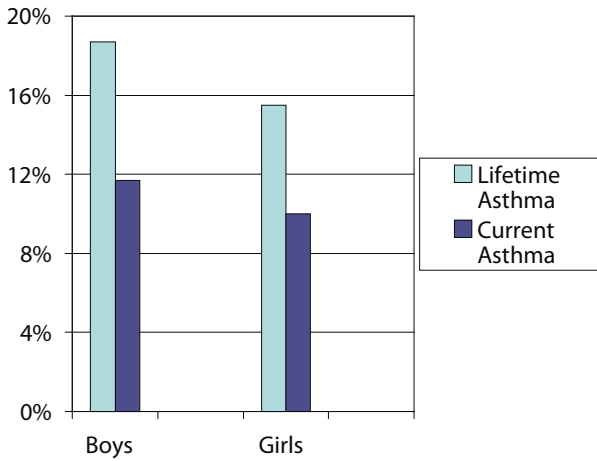
2006. Within this group of adults, females experienced higher rates (lifetime prevalence 12.3%, current prevalence 8.9%) than males (lifetime prevalence 9.5%, current prevalence 4.5%). North Carolina children under the age of 18 had a lifetime prevalence of 17.1 percent and current prevalence of 10.8 percent. Boys had higher rates for both lifetime prevalence and current prevalence (18.7%, 11.7%) than girls (15.5%, 10.0%).

### Adult Asthma Prevalence, North Carolina, 2006



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### Childhood Asthma Prevalence, North Carolina, 2006

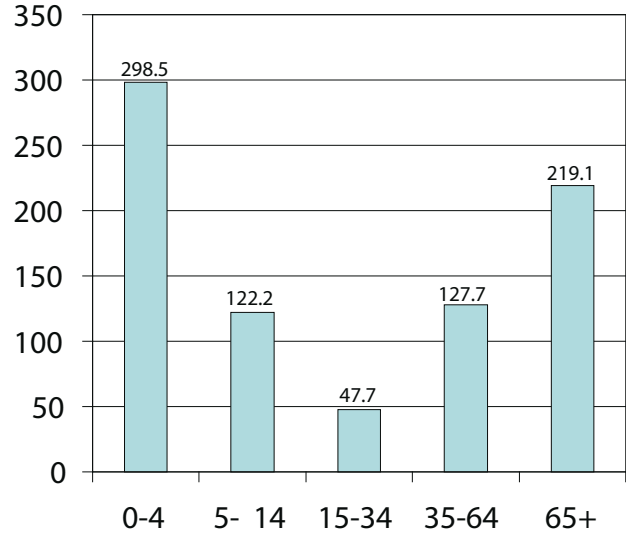


Data Sources: State Center for Health Statistics, N.C. DHHS, Behavioral Risk Factor Surveillance System, available online at: [www.schs.state.nc.us/SCHS/brfss](http://www.schs.state.nc.us/SCHS/brfss); Childhood Health Assessment and Monitoring Program, available online at: [www.schs.state.nc.us/SCHS/champ](http://www.schs.state.nc.us/SCHS/champ).

### Hospitalization

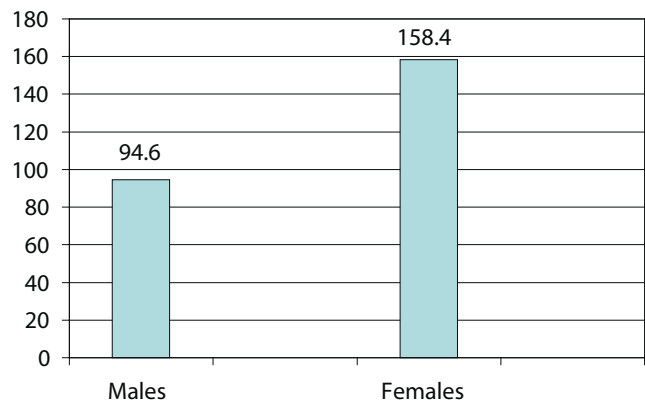
The overall state asthma hospitalization rate was 126.9 per 100,000 residents in 2006. However, there were noticeable differences between age and gender groups. Children ages 0-14 had a rate of 176.4 per 100,000, as compared to 114.4 per 100,000 for people 15 and older. When age was broken into smaller groups, children up to age four had a significantly higher rate than those in other age groups. For all ages, females were significantly more likely to be hospitalized for asthma than males (Note: Provisional North Carolina Hospital Discharge data used for 2006).

### Hospitalizations Due to Asthma per 100,000 Population, by Age, North Carolina, 2006



Data Source: State Center for Health Statistics, N.C. DHHS, County Health Data Book, available online at: [www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook).

### Hospitalizations Due to Asthma per 100,000 Population, by Gender, North Carolina, 2006

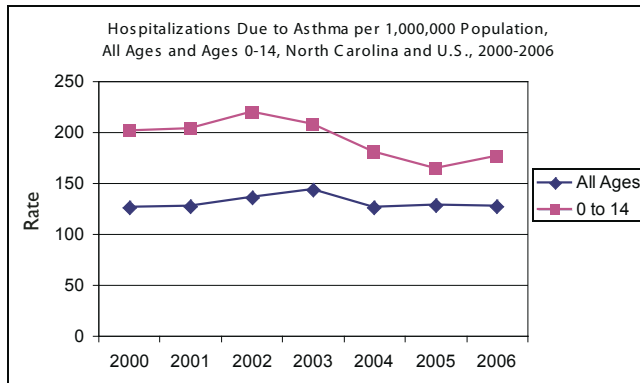


Data Source: State Center for Health Statistics, N.C. DHHS, County Health Data Book, available online at: [www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook).

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### Trends in Adult and Child Hospitalizations

Over the past six years, hospitalizations due to asthma have remained fairly stable for the state as a whole. The graph below presents a look over time at the overall (all ages) and child (ages 0-14 years) asthma hospitalization rates from 2000 to 2006.

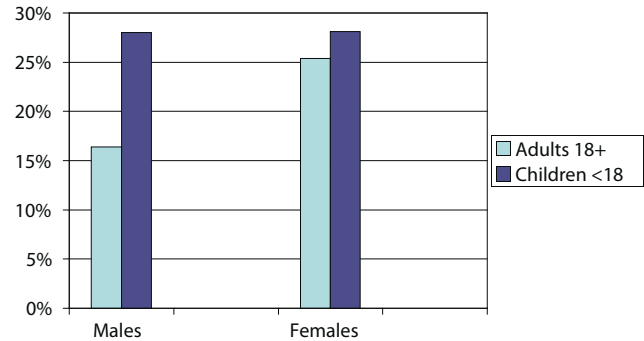


Data Source: State Center for Health Statistics, N.C. DHHS, County Health Data Book, available online at: [www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook).

### Emergency Department Visits

In 2006, about 22.5 percent of adults with current asthma in North Carolina had visited an emergency department or urgent care center at least once because of their asthma in the previous 12 months. The percentage for children under 18 years of age with asthma was 28.1 percent. More adult females (25.4%) than males (16.4%) reported having made at least one visit. The gender difference for children was hardly noticeable – girls, 28.1 percent and boys, 28.0 percent.

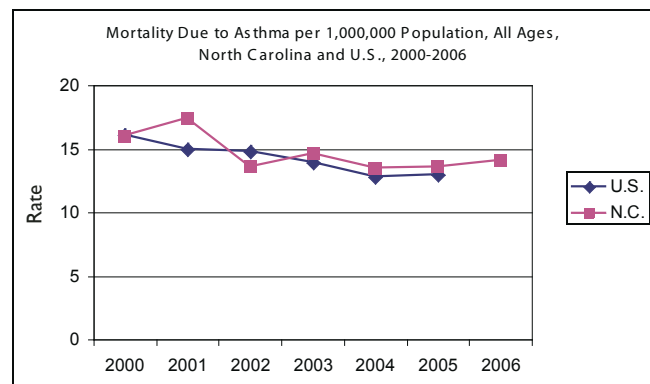
### Emergency Department Visits Due to Asthma, by Gender and Age, North Carolina, 2006



Data Sources: State Center for Health Statistics, N.C. DHHS, Behavioral Risk Factor Surveillance System, available online at: [www.schs.state.nc.us/SCHS/brfss](http://www.schs.state.nc.us/SCHS/brfss); Childhood Health Assessment and Monitoring Program, available online at: [www.schs.state.nc.us/SCHS/champ](http://www.schs.state.nc.us/SCHS/champ).

### Mortality

Between 2000 and 2005, mortality due to asthma decreased from 16.01 per million population to 13.57 per million. This decline was similar to that seen for the U.S. – 16.1 per million in 2000 and 13.0 per million in 2005. North Carolina's asthma mortality rate in 2006 was 14.09 per million (this rate was not available for the U.S.).



Data Sources: State Center for Health Statistics, N.C. DHHS, Detailed Mortality Statistics, available online at: [www.schs.state.nc.us/SCHS/data/vitalstats.cfm](http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm). National Center for Health Statistics, CDC, CDC WONDER On-line Database, available online at: <http://wonder.cdc.gov/cmfi-cd10.html>. National Center for Health Statistics, CDC, Deaths: Preliminary Data for 2005, available online at: [www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimdeaths05/prelimdeaths05.htm](http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimdeaths05/prelimdeaths05.htm).

# Future Topics

In the next issue of *The Asthma Epidemiology Update*, we plan to highlight asthma prevalence and hospitalization data at the county level. With the availability of the results from the 2006 North Carolina Childhood Health Assessment and Monitoring Program (CHAMP) survey, we will also be able to focus more on childhood asthma. Furthermore, as we continue to work with the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) program, we will have access to asthma-related emergency department visit data and will share that information in a future issue. As always, we welcome your comments and suggestions on this issue and for future topics (please contact the North Carolina Asthma Program at 919-707-5213).

## Data Sources

**Prevalence:** State Center for Health Statistics, N.C. DHHS, Behavioral Risk Factor Surveillance System, available online at: [www.schs.state.nc.us/SCHS/brfss](http://www.schs.state.nc.us/SCHS/brfss); Childhood Health Assessment and Monitoring Program, available online at: [www.schs.state.nc.us/SCHS/champ](http://www.schs.state.nc.us/SCHS/champ). Environmental Hazards & Health Effects Program, CDC, 2005 Asthma Data, available online at: [www.cdc.gov/asthma/nhis/05/data.htm](http://www.cdc.gov/asthma/nhis/05/data.htm).

**Hospitalization:** State Center for Health Statistics, N.C. DHHS, County Health Data Book, available online at: [www.schs.state.nc.us/SCHS/data/databook](http://www.schs.state.nc.us/SCHS/data/databook). National Center for Health Statistics, CDC, National Hospital Discharge and Ambulatory Surgery Data, available online at: [www.cdc.gov/nchs/about/major/hdasd/nhds.htm](http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm).



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Department of Health and Human Services  
Division of Public Health  
North Carolina Asthma Program  
[www.ncdhhs.gov](http://www.ncdhhs.gov)

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**Emergency Department Visits:** State Center for Health Statistics, N.C. DHHS, Behavioral Risk Factor Surveillance System, available online at: [www.schs.state.nc.us/SCHS/brfss](http://www.schs.state.nc.us/SCHS/brfss); Childhood Health Assessment and Monitoring Program, available online at: [www.schs.state.nc.us/SCHS/champ](http://www.schs.state.nc.us/SCHS/champ).

**Mortality:** State Center for Health Statistics, N.C. DHHS, Detailed Mortality Statistics, available online at: [www.schs.state.nc.us/SCHS/data/vitalstats.cfm](http://www.schs.state.nc.us/SCHS/data/vitalstats.cfm). National Center for Health Statistics, CDC, CDC WONDER On-line Database, available online at: <http://wonder.cdc.gov/cmfi-icd10.html>. National Center for Health Statistics, CDC, Deaths: Preliminary Data for 2005, available online at: [www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimdeaths05/prelimdeaths05.htm](http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimdeaths05/prelimdeaths05.htm).