# Racial/Ethnic Disparities in Asthma in North Carolina

NORTH Asthma

Racial/ethnic minorities are disproportionately affected by asthma in North Carolina. African Americans and Native Americans comprise two of the six groups identified by the N.C. Asthma Program as being at high risk for poorly controlled asthma.

## Background

"Black children are more likely to have asthma and to experience ED visits for asthma, compared with otherwise comparable white children, and these racial disparities cannot be explained by differences in measurable child or family characteristics."

– M. McDaniel, C. Paxson, and J. Waldfogel, *Pediatrics*, 2006

"The burden of asthma in the United States varies by age, race and ethnicity, gender, income, geographic residence, primary language, education, and literacy. Even with recent reductions in rates of severe asthma events, disparities continue."

- S.K. Lyon-Callo, L. P. Boss, and M. Lara, *Chest*, 2007

## Introduction

In 2007, African American children (<18 years) and adults (18+ years) had higher prevalence rates for asthma than their white counterparts in North Carolina. **Over twice as many** African American children (17.4%) as white children (8.3%) had current asthma.

**Study objective:** To describe the disparities between whites and African Americans with respect to asthma prevalence, selected asthma-related outcomes and management behaviors, and asthma mortality.

## Methods

#### Sources of data:

- \* 2007 N.C. Behavioral Risk Factor Surveillance System (BRFSS)
- \* 2007 N.C. Child Health Assessment and Monitoring Program (CHAMP)
- \* 1999-2007 N.C. Mortality Data, N.C. State Center for Health Statistics

#### Variables of interest:

- \* Asthma prevalence: lifetime prevalence, current prevalence
- \* Asthma-related outcomes: asthma attacks/episodes, symptoms, difficulty sleeping, days unable to work/missed school days, emergency room/urgent care clinic visits
- \* Asthma management behaviors: use of an inhaler, use of daily asthma medication, use of rescue medication, use of emergency asthma medication at school, healthcare visits, had an asthma management plan

#### Analysis:

- \* Descriptive statistics
- \* Cross-tabulations

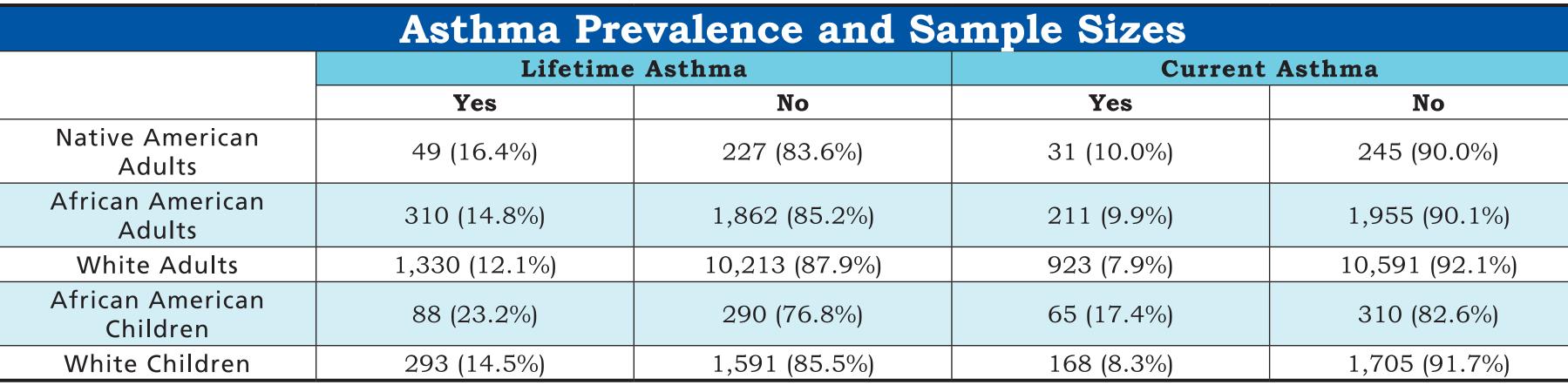
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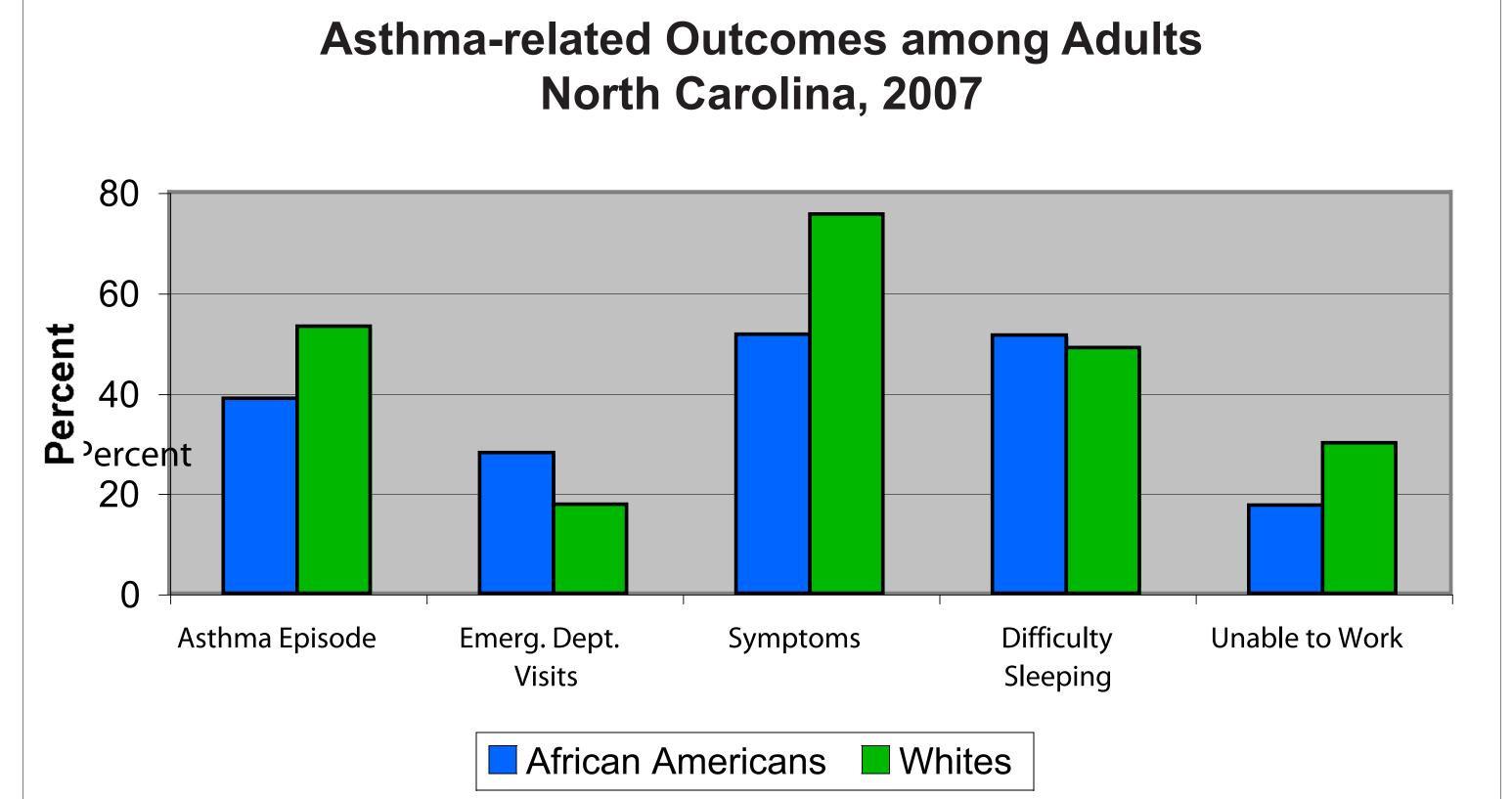




### Results



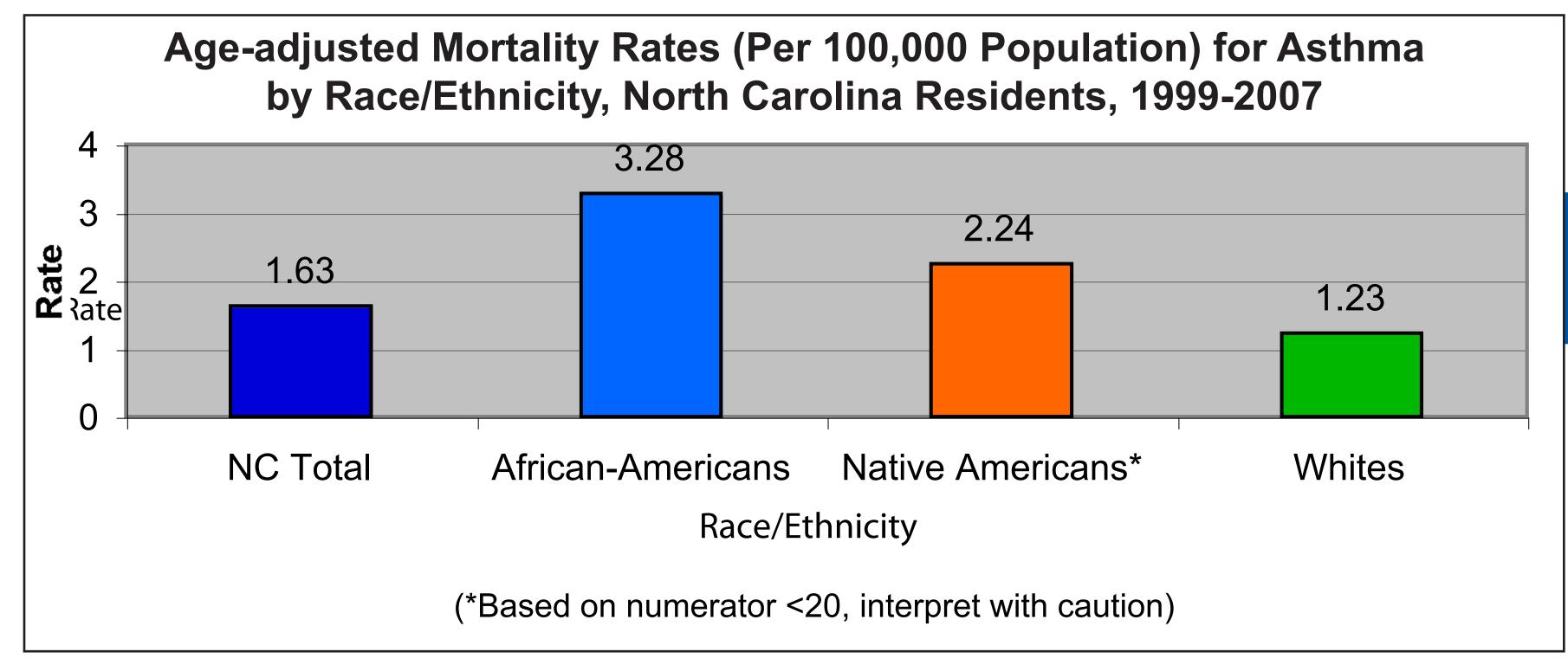
**Source**: 2007 N.C. BRFSS, N.C. State Center for Health Statistics



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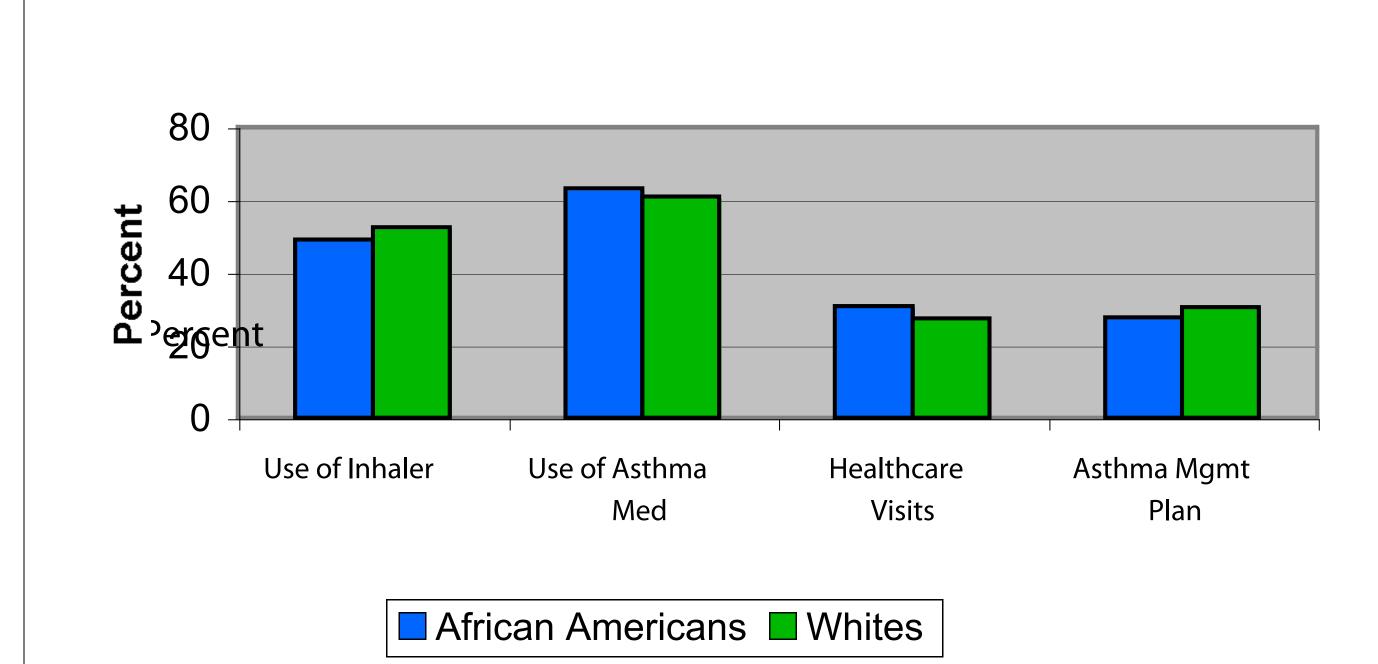
#### ■ BRFSS questions for adult asthma-related outcomes:

- During the past 12 months, have you had an episode of asthma or an asthma attack?
  During the past 12 months, how many times did you visit an emergency room or urgent care center because of your asthma?
- \* During the past 30 days, how often did you have any symptoms of asthma?
- \* During the past 30 days, how many days did symptoms of asthma make it difficult for you to stay asleep?
- During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?



**Source**: 1999-2007 Mortality Data, N.C. State Center for Health Statistics



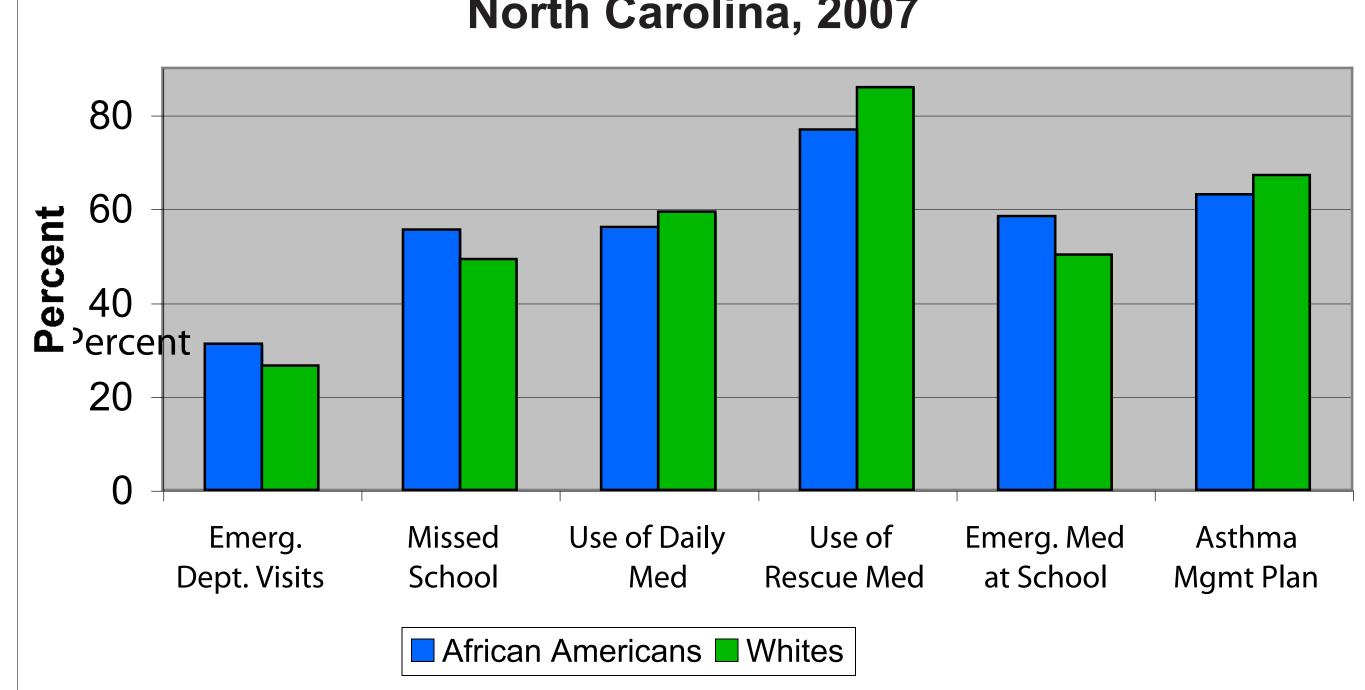


Source: 2007 NC BRFSS, NC State Center for Health Statistics

#### ■ BRFSS questions for adult asthma management behaviors:

- \* During the past 30 days, how often did you use a prescription asthma inhaler during an asthma attack to stop it?
- \* During the past 30 days, how many days did you take a prescription asthma medication to PREVENT an asthma attack from occurring?
- During the past 12 months, besides emergency room visits, how many times did you see a doctor, nurse or other health professional for urgent treatment of worsening asthma symptoms?
- \* An asthma management plan is a printed form that tells when to change the amount or type of medicine, when to call the doctor for advice, and when to go to the emergency room. Has a doctor or other health professional ever given you an asthma management plan?

## Asthma-related Outcomes and Management Behaviors among Children North Carolina, 2007



Source: 2007 N.C. CHAMP, N.C. State Center for Health Statistics

#### ■ CHAMP questions for child asthma-related

#### outcomes and management behaviors:

- \* During the past 12 months, has (CHILD) had to visit a hospital emergency room or urgent care clinic because of {his/her} asthma?
- \* During the past 12 months, how many days of daycare or school did (CHILD) miss due to asthma?
- \* Is (CHILD) using a medicine every day, such as a Beclovent, Azmacort, Pulmicort, Flovent, Advair, Singulair, or Vanceril inhaler, that was prescribed by a doctor to keep {him/her} from having asthma problems?
- \* Does (CHILD) use a rescue medication such as Albuterl, Alupent, Ventolin, Proventil, Xopenex or Maxair inhaler?
- \* At school, is (CHILD) allowed to self-administer emergency medication for asthma?
- \* Has a doctor or other health professional ever given you an asthma management plan for (CHILD)?

## Conclusions

- Racial/ethnic disparities in asthma in North Carolina are notable.
- There are racial disparities in asthma-related outcomes and asthma management behaviors among adults and children with asthma in N.C.
- These variations provide useful information for addressing specific asthma-related issues among African Americans with asthma in N.C.
- Asthma mortality is significantly higher among African Americans than among whites in N.C.

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