



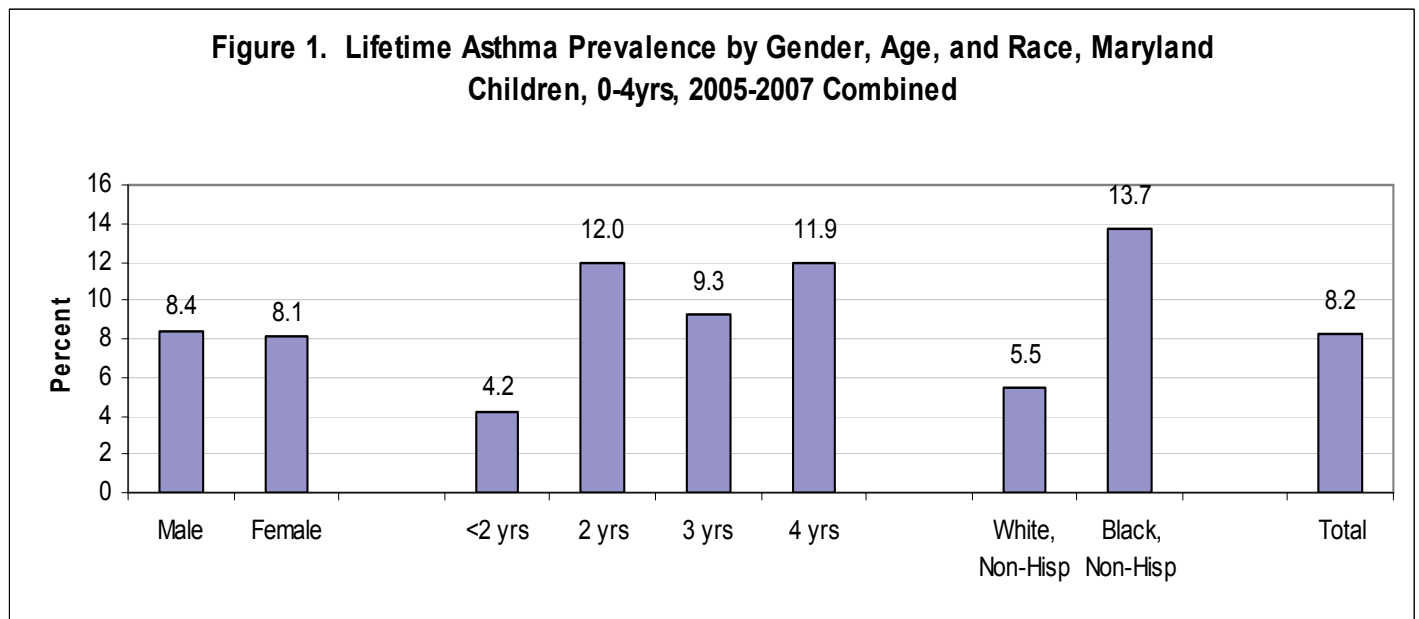
Data Brief #4:

Early Childhood Asthma

Background

This report presents trends in asthma prevalence and health care utilization for young children, ages 0 through 4 years old, by race/ethnicity, gender and age. The data are from the CDC Behavioral Risk Factor Surveillance System (BRFSS), and the Maryland Health Services Cost Review Commission (HSCRC) Hospital Discharge dataset. Rates are calculated based on population statistics from the National Center for Health Statistics (NCHS) Vintage Population File. Where possible, data have been age-adjusted to the 2000 U.S. estimated population.

What is Asthma? Asthma is a controllable chronic lung disease characterized by inflammation of the airways that leads to reversible airway narrowing, and excess mucus secretion. This narrowing of the airway results in reduced airflow that may cause symptoms of wheezing, coughing, tightness of the chest, and difficulty breathing. Asthma is one of the most common chronic diseases in children. Due to its similarity to other common childhood respiratory illnesses, variations in symptoms, and reluctance on the part of doctors to establish a diagnosis in very young children, early childhood asthma is often under recognized and under diagnosed¹.



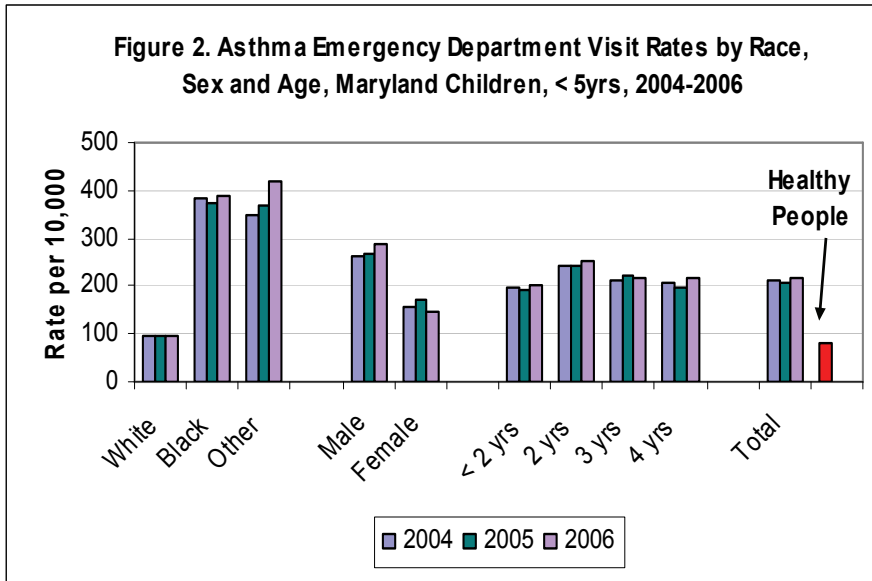
Source: Maryland BRFSS, 2005-2007

Asthma Prevalence, Ages 0-4: Between 2005-2007, 8.2% of Maryland children less than five years of age had been diagnosed with asthma at some point during their lifetime. Figure 1 shows that between 2005 and 2007, Black non-Hispanics children less than five years of age were diagnosed with asthma at more than twice the rate of White non-Hispanics children (13.7% vs. 5.5%, respectively). In 2006 (the most recent year for which comparison data is available), the percentage of children less than five years who had ever been diagnosed with asthma was higher in Maryland (8.6%) than the nation as a whole (7.5%).

¹Pearce N, Douwes J, Beasley R. The rise and rise of asthma: a new paradigm for the new millennium? *J Epidemiol Biostat.*2000; 5 :5 -16

Asthma Health Care Utilization

Figure 2. Asthma Emergency Department Visit Rates by Race, Sex and Age, Maryland Children, < 5yrs, 2004-2006



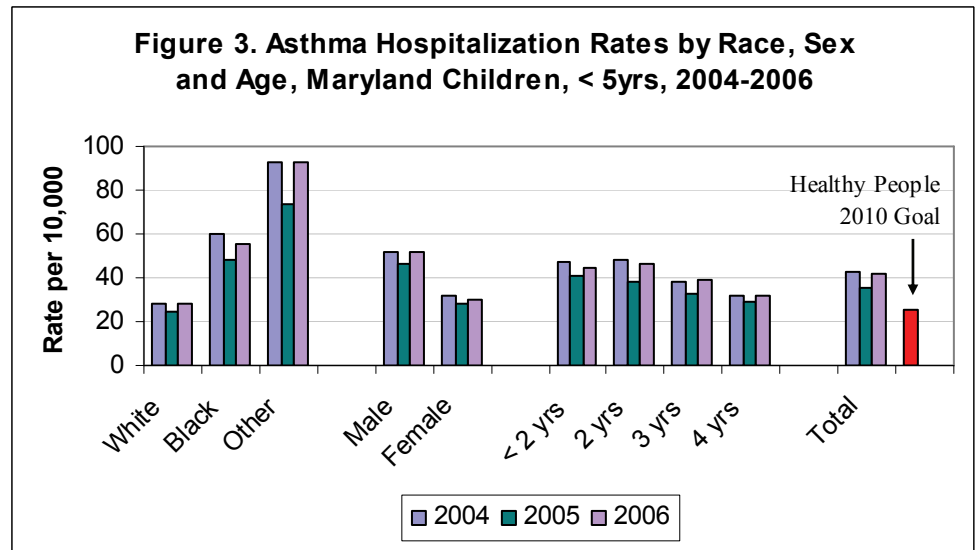
From 2002 to 2006, children ages 0-4 years had a sharp increase in asthma emergency department (ED) visits from 179.2 per 10,000 in 2002 to 218.7 per 10,000 in 2006 (data not shown). In 2006, ED visits for African American and "Other" children were four times the rate for white children. Male children had more frequent ED visits than females. ED visit rates for children under the age of five continue to exceed the Healthy People 2010 goal.

In 2006, the total cost of ED visits due to asthma among children under the age of 5 was nearly \$5 million. The average costs per ED visit in 2006 was \$602.

Data from 2004-2006 HSCRC.
 Data for total population, and by race and sex are age adjusted to the 2000 U.S. estimated population.

From 2002 to 2006, there was no consistent trend in the rate of hospitalization for children ages 0-4 years (data not shown). In 2006, there were 41.5 hospitalizations for asthma per 10,000 children under the age of 5. Hospitalization rates for African American children continued to be nearly twice that of whites. Female children were hospitalized less frequently than male children. Maryland asthma hospitalization rates for children under 5 years of age continue to exceed the Healthy People 2010 goal.

Figure 3. Asthma Hospitalization Rates by Race, Sex and Age, Maryland Children, < 5yrs, 2004-2006



Data from 2004-2006 HSCRC (including MD residents in DC, WV, DE, PA). Hospitalizations of MD residents in DC, DE and WV are included in all data. Hospitalizations of MD residents in PA are included in all data except 2006. Hospitalization of MD residents in WV are included in all data except rates by race, because WV does not collect data on race.

In 2006, the total cost of asthma hospitalization among children under the age of 5 years was nearly \$6 million. The average cost per hospitalization in 2006 was \$4,136.

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