

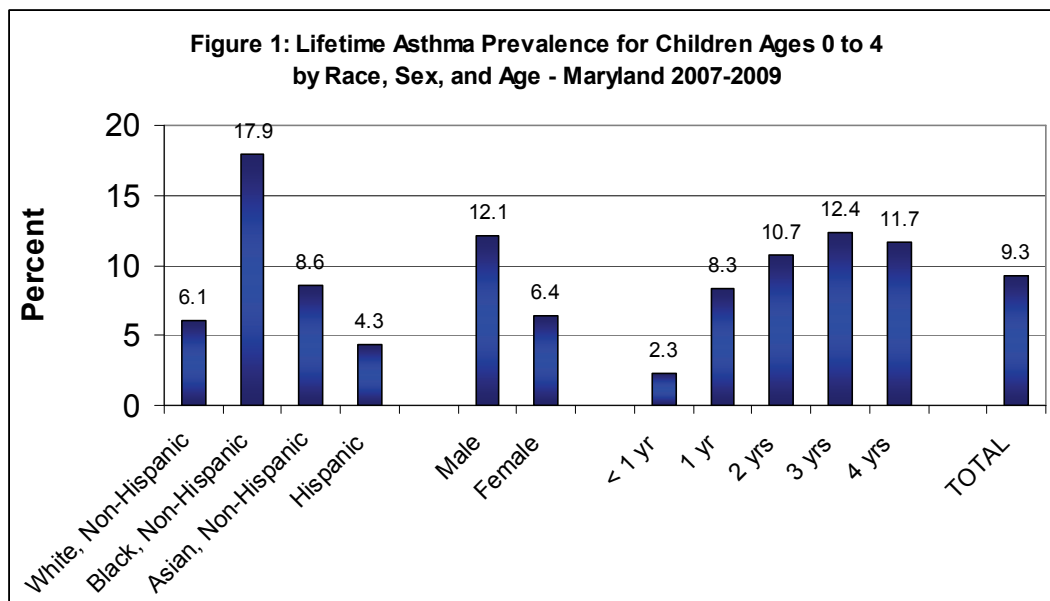


# Early Childhood Asthma in Maryland

## Background

This report presents trends in asthma prevalence and health care utilization for young children, ages 0 through 4 years old by sex, age, and race/ethnicity. Data are from the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System (BRFSS) and the Maryland Health Services Cost Review Commission (HSCRC) hospital discharge dataset. All HSCRC data presented in this report are based on a principal diagnosis of asthma for ED visits and hospitalizations. Since some Maryland residents are hospitalized in neighboring states, data on hospitalization of Maryland residents from Delaware, Pennsylvania\*, Washington D.C., and West Virginia are included when possible. Rates are calculated based on 2009 population statistics from the National Center for Health Statistics (NCHS) vintage population files. Where possible, data have been age-adjusted to the 2000 U.S. standard 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.



Maryland BRFSS, 2007-2009.  
 \* Rates are age-adjusted to the U.S. standard population.

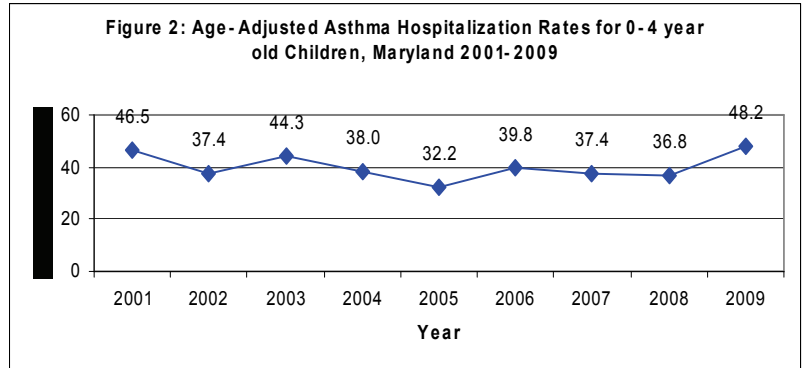
Figure 1 shows that 9.3% of Maryland children 0 to 4 years of age were diagnosed with asthma from 2007 to 2009. Black, non-Hispanic children ages 0 to 4 years old were diagnosed with asthma almost three times more than White, non-Hispanic children (17.9% vs. 6.1%). The next highest prevalence of lifetime asthma was found in Asian, non-Hispanic children at 8.6%. In general, males were diagnosed with asthma 1.9 times more than females (12.1% vs. 6.4%).

The percentage of children 0 to 4 years of age with lifetime asthma was higher in Maryland at 9.3% compared to the United States at 7.9%. [CDC BRFSS, 2009]

\* “The Pennsylvania Health Care Cost Containment Council (PHC4) is an independent state agency responsible for addressing the problem of escalating health costs, ensuring the quality of health care, and increasing access to healthcare for all citizens regardless of ability to pay. PHC4 has provided data to this entity in an effort to further PHC4’s mission of educating the public and containing health care costs in Pennsylvania. PHC4, its agents, and staff, have made no representation, guarantee, or warranty, expressed or implied, that the data -- financial, patient, payor, and physician specific information -- provided to this entity, are error-free, or that the use of the data will avoid differences of opinion or interpretation. This analysis was not prepared by PHC4. This analysis was done by MACP. PHC4, its agents and staff, bear no responsibility or liability for the results of the analysis, which are solely the opinion of MACP.”

## Early Childhood Asthma Healthcare Utilization Trends

From 2001 to 2009, there is a fairly steady trend in the rate of hospitalizations for 0 to 4 year old children. Maryland children hospitalized in surrounding states (DE, PA, WV, and DC) are included in Figure 2.



Maryland HSCRC, Delaware Department of Health; Pennsylvania Health Care Cost Containment Council, West Virginia Health Care Authority, 2001-2009.

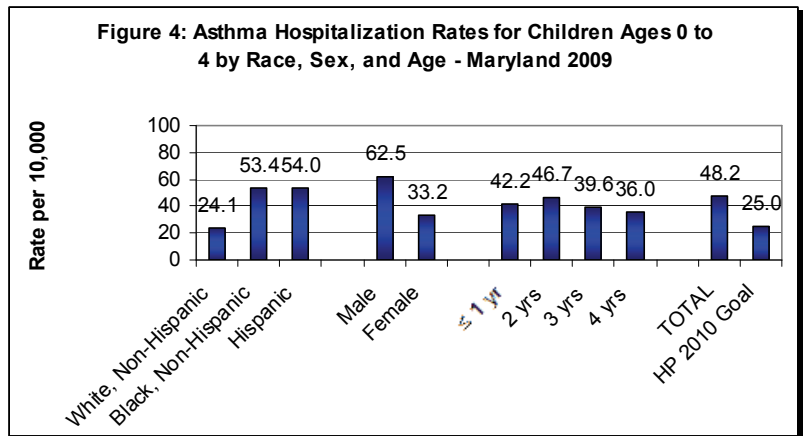
<sup>a</sup> Rates are age-adjusted to the 2000 U.S. standard population.

<sup>b</sup> Includes Maryland residents hospitalized in Delaware, Pennsylvania, Washington D.C., and West Virginia.

There were 48.2 asthma hospitalizations per 10,000 children ages 0 to 4 in 2009 (Figure 4).

Hospitalization rates for Hispanic and Black children continued to be over twice that of Whites. Male children were hospitalized more frequently than female children.

In 2009, the hospitalization rate for children ages 0 to 4 exceeded the Healthy People 2010 goal (48.2 vs. 25.0, rate per 10,000).



Maryland HSCRC, Delaware Department of Health; Pennsylvania Health Care Cost Containment Council, West Virginia Health Care Authority, 2007-2009.

<sup>a</sup> Rates are age-adjusted to the 2000 U.S. standard population.

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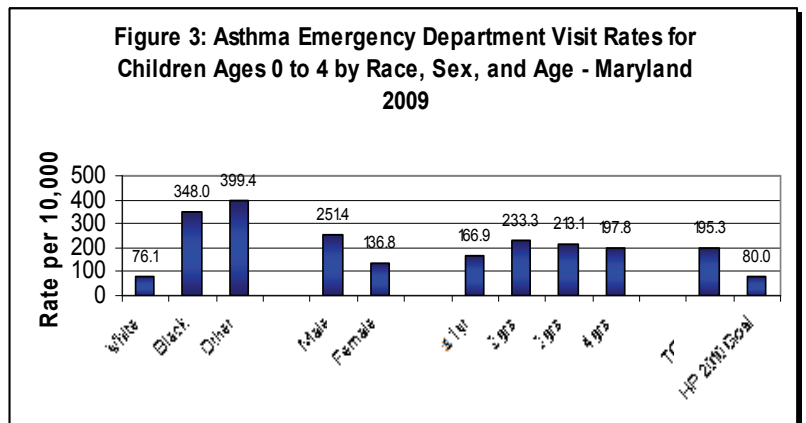
<sup>c</sup> Out of state data for ethnicity only includes Pennsylvania.

Maryland children (0 to 4 years old) hospitalized for asthma spent a total of 2,884 days in the hospital during 2009, with an average stay of 1.8 days. Females and males had similar average hospital stays (1.9 vs. 1.8 days) and White and Black children had similar average hospital stays (1.8 vs. 1.9 days). (Maryland HSCRC, 2009).

In 2009, there were 195.3 ED visits per 10,000 children ages 0 to 4 (Figure 3).

Asthma emergency department (ED) visits for Black children were almost five times the rate of White children. Male children had almost double the rate of ED visits for asthma compared to females.

ED visit rates for children ages 0 to 4 continue to exceed Healthy People 2010 goals (195.3 vs. 80.0, rate per 10,000).



Maryland HSCRC, 2009.

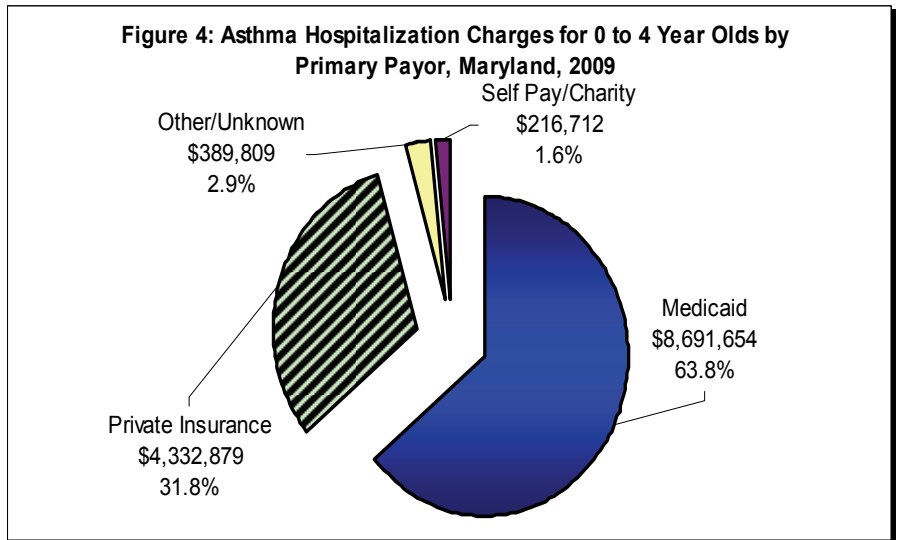
<sup>a</sup> Rates are age-adjusted to the 2000 U.S. standard population.

## The Cost of Early Childhood Asthma Hospitalizations

As shown in Figure 4, Medicaid covered the largest percentage of hospitalization visits at 63.8%.

Total charges for asthma hospitalizations in 2009 were approximately \$13.6 million for 0 to 4 year olds. The average charge for an inpatient stay for asthma in 2009 was \$4,562.

Emergency department visits accounted for an additional \$5.0 million. The average charge for an emergency department visit for asthma was \$668 (data not displayed).



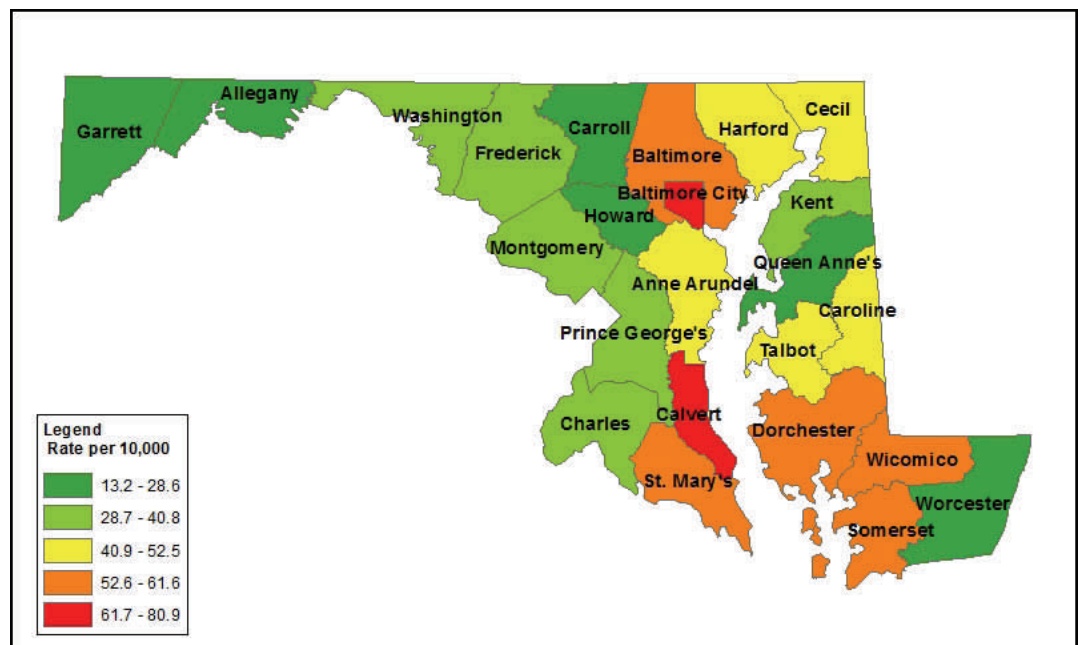
Maryland HSCRC, 2009.

## Early Childhood Asthma Hospitalization Rates by Jurisdiction

As displayed in Figure 5, Baltimore City (80.9) and Calvert (78.1) had significantly higher asthma hospitalization rates of 0 to 4 year old children compared to Maryland's state asthma hospitalization rate of 48.2 per 10,000 for 0 to 4 year old children in 2009.

Wicomico, Dorchester, Somerset, St. Mary's, and Baltimore County all had significantly higher asthma hospitalization rates as well (61.6, 61.1, 60.9, 60.1, 60.0 per 10,000).

**Figure 5: Asthma Hospitalization Rates for 0 to 4 Year Olds by Jurisdiction, Maryland 2009**



Maryland HSCRC, 2009; Pennsylvania Health Care Cost Containment Council, 2009; West Virginia Health Care Authority, 2009.

<sup>a</sup> Rates are age-adjusted to the 2000 U.S. standard population.

<sup>b</sup> Includes Maryland residents hospitalized in Pennsylvania, Washington D.C., and West Virginia.

<sup>c</sup> Some county rates are based on a small number of hospitalizations in this age range - data should be interpreted with caution.

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