MARYLAND ASTHMA CONTROL PROGRAM

Department of Health and Mental Hygiene
Family Health Administration
Center for Maternal and Child Health

August 2011

Data Brief #1:

Asthma Disparities in Maryland

Racial/Ethnic Asthma Disparities

Racial/Ethnic Asthma Disparities: As shown in Table 1, lifetime and current asthma prevalence was very similar between White, non-Hispanic adults and Black, non-Hispanic adults in Maryland, while prevalence remained slightly lower for Hispanics. Black, non-Hispanic children (ages 0-17) had the highest lifetime and current prevalence rates for asthma in Maryland and were about 1.5 times more likely to have ever been diagnosed with asthma at some point in their lifetime compared to White, non-Hispanic children. Roughly, 13.6% of Black, non-Hispanic children reported a current prevalence of asthma, representing 60,704 children.

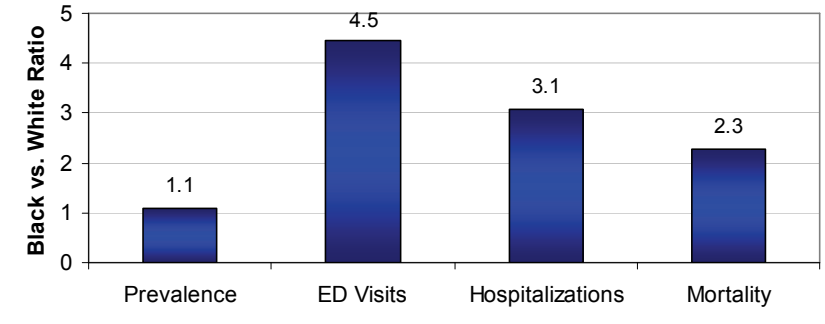
Table 1: Current Asthma Prevalence by Race/Ethnicity, Maryland 2007-2009

	LIFETIME ASTHMA				CURRENT ASTHMA			
	White, non-Hispanic	Black, non-Hispanic	Hispanic	All Races/ Ethnicities	White, non-	Black, non-Hispanic	Hispanic	All Races/ Ethnicities
Adults MD	13.6 (13.0-14.2)	14.6 (13.3-15.9)	9.4 (6.9-11.9)	13.7 (13.2-14.2)	8.8 (8.3-9.3)	9.7 (8.6-10.8)	6.2 (4.1-8.3)	9.0 (8.5-9.4)
Adults U.S.	13.6	14.0	10.3	13.1	8.1	8.7	5.5	7.7
Children MD	12.4 (11.3-13.5)	18.4 (16.0-20.8)	11.6 (8.0-15.2)	14.3 (13.3-15.2)	8.2 (7.3-9.1)	13.6 (11.5-15.7)	7.3 (4.4-10.2)	9.9 (9.1-10.8)
Children U.S.	12.4	21.8	12.4	13.8	8.5	17.0	7.7	9.6

Maryland BRFSS, 2007-2009; CDC/NCHS National Health Interview Survey, 2009.
[a] Prevalence and 95% confidence intervals are per 100%.)
[b] 95% confidence interval is not provided for United States data.

Figure 1, below, shows that Black adults had a 4.5 times higher rate of emergency department (ED) visits (107.7 vs. 24.1 rate per 10,000), 3.1 times higher rate of hospitalizations* (24.6 vs. 8.0 rate per 10,000), and 2.3 higher rate of mortality (24.3 vs. 10.7 rate per million) due to asthma compared to White adults in 2009.* Data on hospitalization of Maryland residents from Delaware, Pennsylvania†, Washington D.C., and West Virginia are included when possible. The increased rates among Black adults cannot be explained by prevalence since Black adults had a very similar lifetime and current asthma prevalence compared to White adults. These higher ED visits, hospitalizations, and mortality rates may be indicative of a lack of appropriate care or failed self-management of asthma.

Figure 1: Black-White Disparity Ratios for Adults with Asthma Maryland, 2009



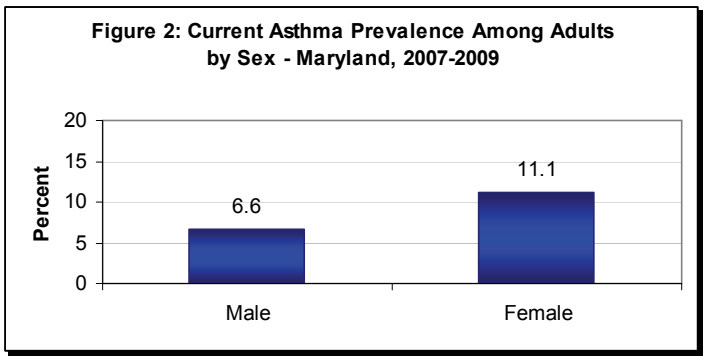
Maryland BRFSS, 2009; MD HSCRC, 2009; MD VSA, 2005-2009.
[a] Rates are age-adjusted to the 2000 U.S. standard population.

* All data presented in this report is based on a principal diagnosis of asthma for ED visits and hospitalizations and asthma as a primary cause of death for mortality.

† "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."

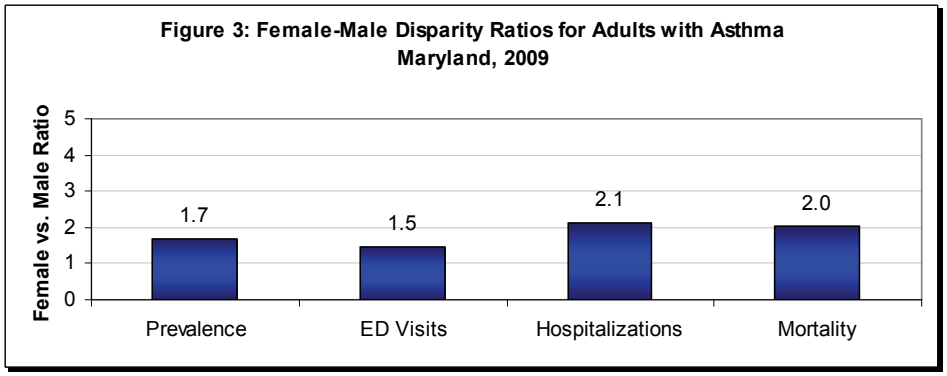
Asthma Gender Disparities

Asthma Disparities by Gender: Adult women consistently have a higher asthma prevalence, ED visits, hospitalizations, and mortality compared to adult men. The higher prevalence of asthma among women might be explained by physiological differences such as smaller airways, hormonal differences, or increased healthcare usage among women. Figure 2 (below) displays the asthma prevalence in Maryland among adult men compared to adult women in 2009. Women had almost twice the prevalence of asthma compared to men (11.1% vs. 6.6%). More research is needed to examine the cause of a higher asthma prevalence in adult women compared to adult men.



Maryland BRFSS, 2009.
[a] Rates are age-adjusted to the 2000 U.S. standard population.

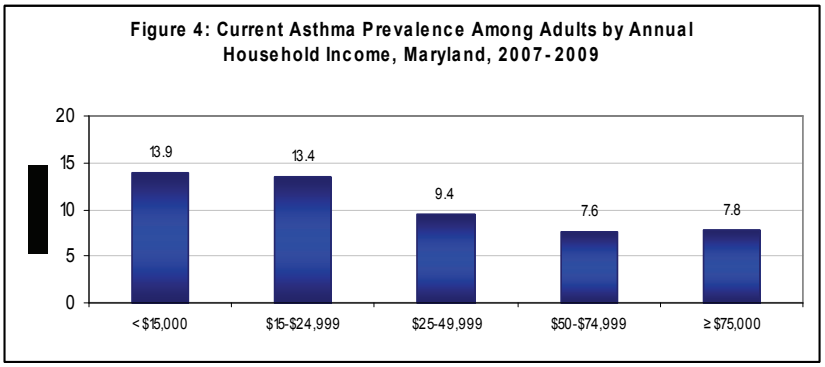
As shown in Figure 3, adult women had a 1.5 times higher rate of ED visits (56.3 vs. 38.5 rate per 10,000), 2.1 times higher hospitalizations (17.3 vs. 8.1 rate per 10,000), and a twice as high mortality rate (19.0 vs. 9.4 rate per million) compared to adult men in 2009. These higher rates of emergency department visits, hospitalizations, and mortality may be related to the higher prevalence of asthma in women.



Maryland BRFSS, 2009; MD Health Services Cost Review Commission , 2009; MD Vital Statistics Administration, 2005-2009.
[a] Rates are age-adjusted to the 2000 U.S. standard population.

Asthma Income Disparities

Figure 4 shows a negative trend between current asthma prevalence and income. Asthma prevalence was higher with lower household incomes (2007-2009). Adults with the lowest household income (less than $15,000) had an asthma prevalence of 13.9% which was almost twice as high as the prevalence of adults with the largest household income ($75,000 or greater) at 7.8%.

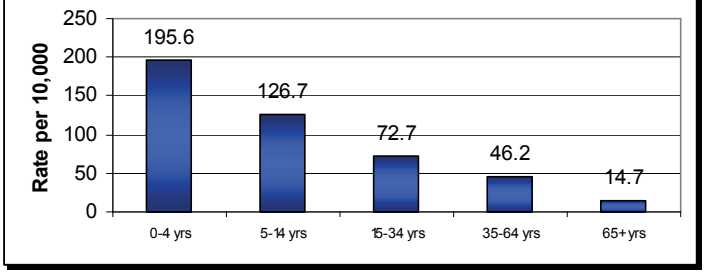


Maryland BRFSS, 2007-2009.

Asthma Age Disparities

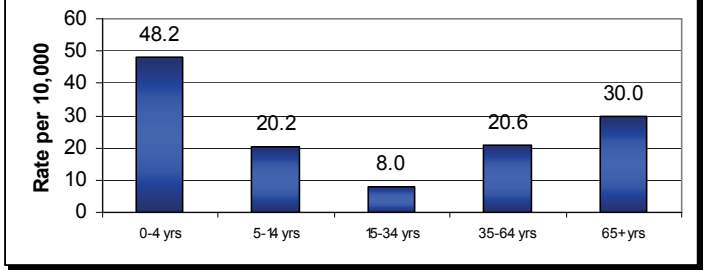
Asthma Disparities by Age: Children less than 5 years of age have disproportionate numbers of hospitalizations and emergency department visits due to asthma compared to older age groups. Figures 5 and 6 show asthma ED visit rates and hospitalization rates by age. In 2009, children less than 5 years of age had the highest rates of asthma ED visits and hospitalizations. These higher rates of ED visits and hospitalizations in children less than 5 years of age cannot be explained by a higher prevalence in this age group. Children less than 5 years of age had a lifetime asthma prevalence of 9.3% while older adults (65 years and older) had a current asthma prevalence of 11.5% (Maryland BRFSS, 2007-2009; data not displayed). As expected, combined 2005-2009 data for mortality and age had a positive trend – adults aged 65+ had a mortality rate of 40.5 per million vs. a 2.7 mortality rate per million in children less than 5 years old (Maryland VSA, 2005-2009; data not displayed).

Figure 5: Asthma Emergency Department Visit Rates by Age - Maryland, 2009



Maryland HSCRC, 2009. Rates are age-adjusted to the 2000 U.S. standard population.

Figure 6: Asthma Hospitalization Rates by Age Maryland, 2009



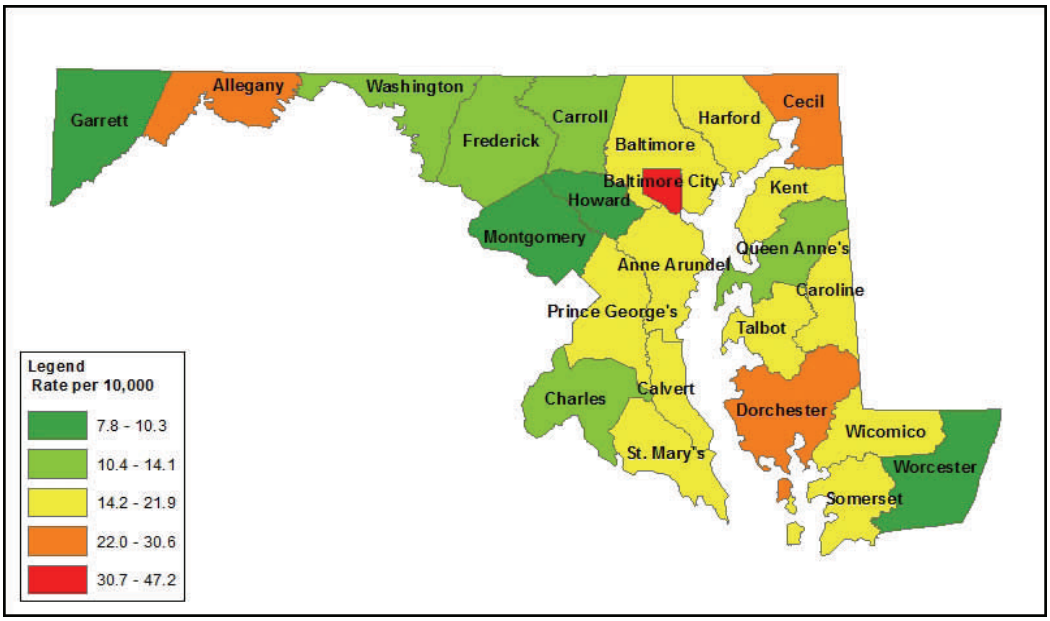
Maryland HSCRC, 2009. Rates are age-adjusted to the 2000 U.S. standard population.

Asthma Geographic Disparities

Asthma hospitalization rates, shown in Figure 7, were highest in Baltimore City at 47.2 per 10,000. This was significantly higher than the state hospitalization rate of Maryland as a whole (19.8 per 10,000).

The jurisdictions of Allegany, Cecil, and Dorchester were also significantly higher than the hospitalization rate of Maryland (30.6, 26.9, and 24.4 per 10,000).

Figure 7: Asthma Hospitalization Rates by Jurisdiction, Maryland 2009



Maryland HSCRC, 2009; Pennsylvania Health Care Cost Containment Council, 2009; West Virginia Health Care Authority, 2009.
[a] Rates are age-adjusted to the 2000 U.S. standard population.
[b] Includes Maryland residents hospitalized in Pennsylvania, Washington D.C., and West Virginia.

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