



Asthma Mortality in Maryland

Background

This report presents data from the Maryland Department of Health and Mental Hygiene Vital Statistics Administration (MD VSA) on asthma mortality among Marylanders. Rates are calculated based on population statistics from the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) vintage population files. Data have been age-adjusted to the 2000 U.S. estimated population when possible. Five-year averages are calculated for mortality rates due to the small numbers of deaths each year. Additionally, mortality rates that contain five or less events (deaths) in the numerator are displayed as zero to prevent any possibility of individual identification.

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 Mortality: Mortality from asthma is potentially preventable. Therefore, to some extent, trends in asthma mortality reflect the State's overall success in the management and control of asthma. There are two categorizations of cause of death – underlying cause and contributing cause. Underlying cause is defined as the first listed cause of death, meaning that the disease or condition initiated the chain of events leading directly to death. Contributing cause is defined as all other significant diseases or conditions that may have contributed to the death.

Table 1: Asthma Deaths Among Maryland Residents, 1989-2009

Year	Number of Deaths, Asthma as Underlying Cause	Number of Deaths, Asthma as Underlying or Contributing Cause
1989	70	148
1990	82	160
1991	76	182
1992	65	171
1993	73	178
1994	88	223
1995	96	229
1996	149	315
1997	103	232
1998	107	260
1999	81	270
2000	81	240
2001	74	253
2002	96	261
2003	87	239
2004	91	221
2005	77	220
2006	55	193
2007	73	213
2008	56	188
2009	72	221

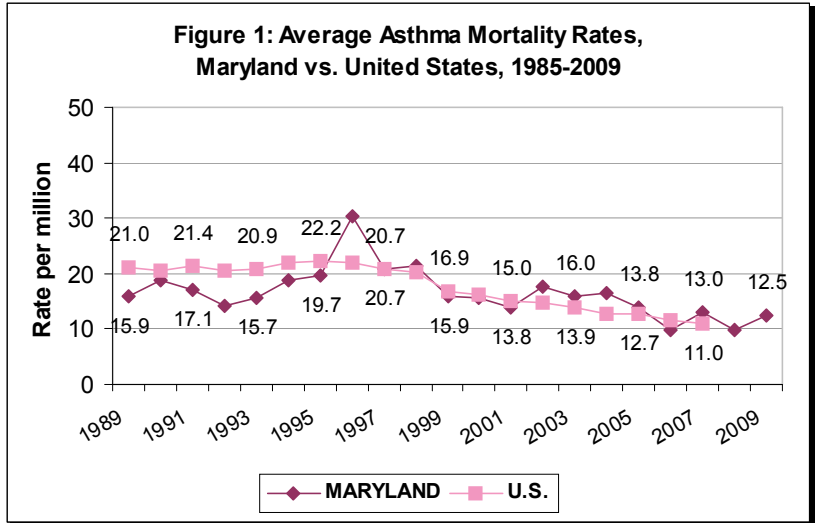
Maryland VSA, 1989-2009.

^a Rates are age-adjusted to the 2000 U.S. standard population.

In 2009, 72 Maryland residents died from asthma as the underlying cause of death. Asthma contributed to the death of an additional 149 Maryland residents. Because of the small numbers of deaths each year, five-year averages are calculated for asthma trends.

As shown in Figure 1, mortality rates for Maryland have remained similar to national rates over time. Both Maryland and national mortality rates appear to be on a downward trend since 2000. Over the past five years there has been no specific trend in deaths by month or season.

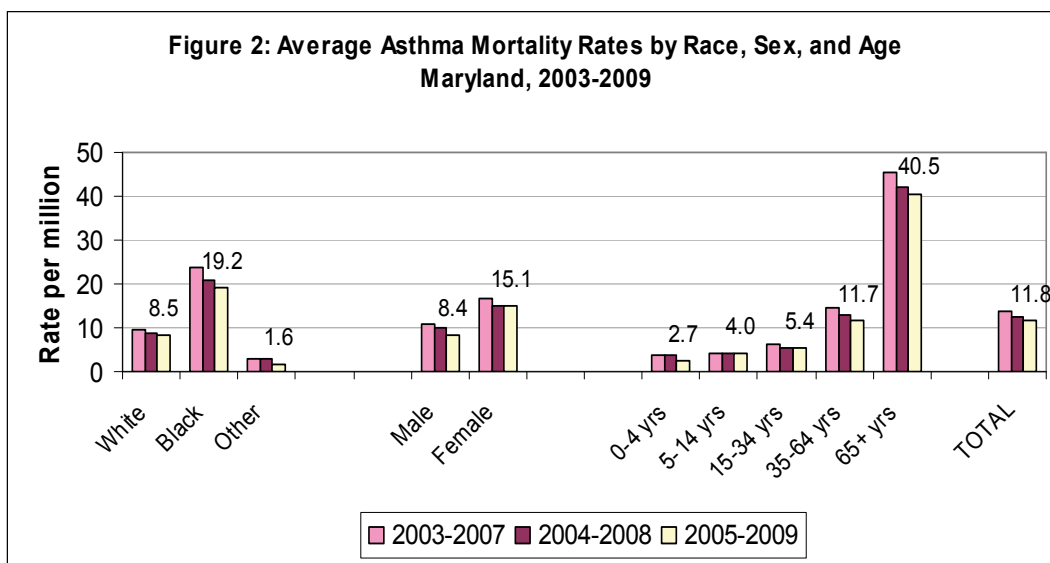
The age-adjusted mortality rate in 2009 was 12.5 deaths per million.



Maryland VSA, 1985-2009; Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), 1985-2007.
^a Rates are age-adjusted to the 2000 U.S. standard population.

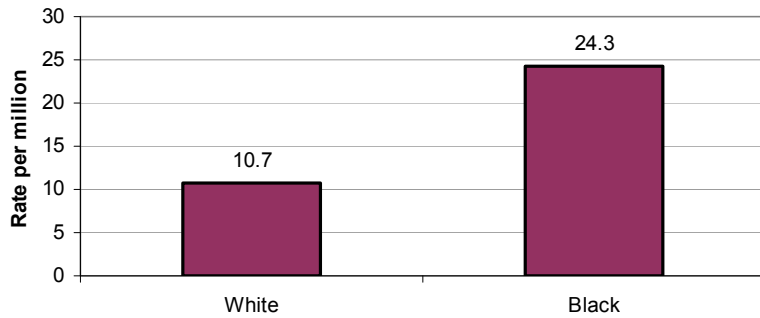
Asthma Mortality Five Year Trends by Race, Sex, and Age

Figure 2 shows a downward trend in average asthma mortality rates over time. From 2005-2009, an average of 66.6 Maryland residents died each year from asthma as an underlying cause – a rate of 11.8 deaths per million. Disparities in asthma mortality continue to exist in Maryland – blacks continue to die at a rate over twice as high than that of whites (2005-2009 average mortality rate of 19.2 vs. 8.5 deaths per million). Women are more likely to die of asthma complications than men in Maryland (2005-2009 average mortality rate of 15.1 vs. 8.4 deaths per million). While overall deaths from asthma are lowest in children under 15 years of age, the majority of deaths are seen in older adults. An average of 27 Maryland residents, over the age of 64, died each year from asthma as an underlying cause (2005-2009 average mortality rate of 40.5 deaths per million).



Maryland VSA, 2003-2009.
^a Rates are age-adjusted to the 2000 U.S. standard population.

Figure 3: Average Asthma Mortality Rates Among Adults by Race Maryland, 2005-2009



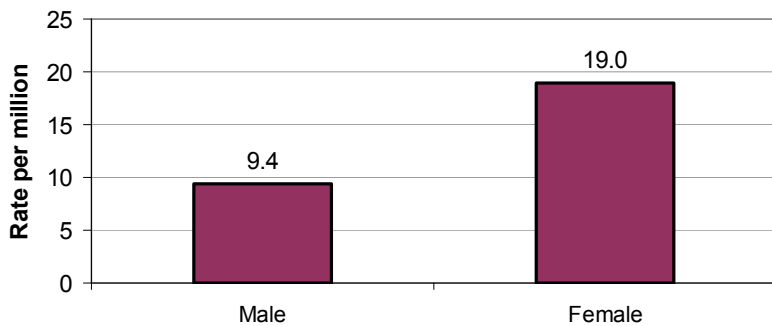
Maryland VSA, 2005-2009.

^a Rates are age-adjusted to the 2000 U.S. standard population.

Figure 3 and Figure 4 show average mortality rate trends in Maryland adults by race and sex in Maryland.

Black adults in Maryland had a 2.3 times higher average mortality rate than that of white adults (2005-2009 mortality rate of 24.3 vs. 10.7 deaths per million).

Figure 4: Average Asthma Mortality Rates Among Adults by Sex Maryland, 2005-2009



Maryland VSA, 2005-2009.

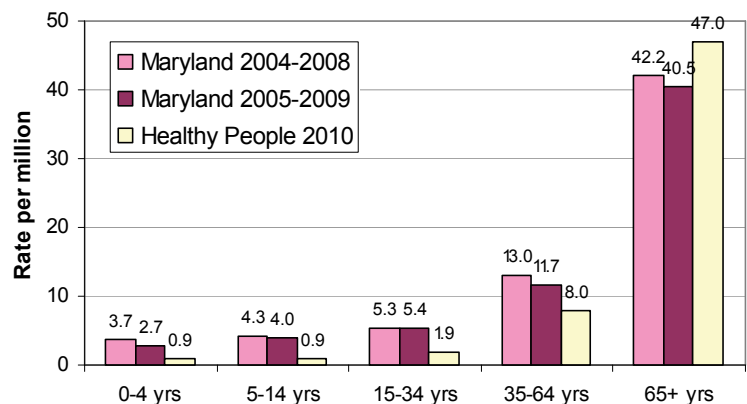
^a Rates are age-adjusted to the 2000 U.S. standard population.

From 2005-2009, adult women in Maryland nearly had a 2.0 times higher average mortality rate than that of adult men (19.0 vs. 9.4 deaths per million).

Asthma Mortality and Healthy People 2010 Goals

As shown in Figure 5, Maryland asthma mortality rates over the past five years have exceeded Healthy People 2010 goals for all age groups except for persons 65 years of age and older.

Figure 5: Average Asthma Mortality Rates, 2004-2009 Maryland vs. Healthy People 2010 Goals



Maryland VSA, 2004-2009; CDC, NCHS, Data2010: Healthy People Database, Objective 24-01, 2010.

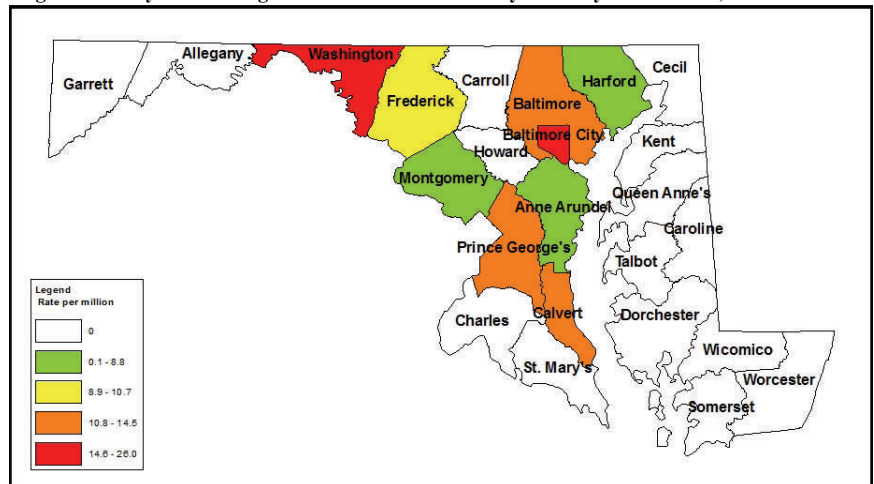
^a Rates are age-adjusted to the 2000 U.S. standard population.

Asthma Mortality by Jurisdiction

Baltimore City (26.0), Washington (21.6), and Calvert (14.5) all had significantly higher asthma mortality rates compared to Maryland's state asthma mortality rate of 11.8 per million in 2009.

Table 2 (below) shows each specific jurisdiction's average annual mortality rates. Jurisdictions that contain five or less events (deaths) in the numerator are displayed as zero to prevent any possibility individual identification.

Figure 6: Maryland Average Annual Asthma Mortality Rates by Jurisdiction, 2005-2009



Maryland VSA, 2005-2009.

^a Rates are age-adjusted to the 2000 U.S. standard population.

Table 2: Maryland Average Annual Asthma Mortality Rates by Jurisdiction, 2005-2009

Jurisdiction	Average Mortality Rates (Rate per million)	Average Number of Deaths per Year
NORTHWEST	12.6	6.2
Garrett	--	--
Allegany	--	--
Washington	21.6	3.4
Frederick	10.7	2.0
BALTIMORE METRO	13.2	35.0
Baltimore City	26.0	16.4
Baltimore County	12.4	10.6
Anne Arundel	8.8	4.6
Carroll	--	--
Howard	--	--
Harford	7.3	1.8
NATIONAL CAPITOL	10.6	18.0
Montgomery	8.2	7.6
Prince George's	13.2	10.4
SOUTHERN MD	10.6	3.2
Calvert	14.5	1.2
Charles	--	--
Saint Mary's	--	--
EASTERN SHORE	4.2	4.2
Cecil	--	--
Kent	--	--
Queen Anne's	--	--
Caroline	--	--
Talbot	--	--
Dorchester	--	--
Wicomico	--	--
Somerset	--	--
Worcester	--	--
TOTAL	11.8	66.6

Maryland VSA, 2005-2009.

^a Rates are age-adjusted to the 2000 U.S. standard population.

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