

# *The Facts About Asthma*

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*June 15, 2004*

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# Is ASTHMA contagious?

- True or False

# ASTHMA only affects Children?

- True or False

# Will the Detroit Pistons win the Championship tonight?

- True or False

## *What is Asthma?*

- ASTHMA is a chronic disease of the lungs
- Anyone can develop it, but children are particularly affected
- Symptoms vary:
  - coughing
  - wheezing
  - shortness of breath/rapid breathing
  - chest tightness

# *Asthma is a rapidly growing public health problem*

- ASTHMA rates have increased 60% in the past 15 years
- Over 20 million people, including 6.3 million children, have asthma
- 12 million people report having an asthma attack in the last year
- 14 million missed school days
- 2 million emergency room visits each year
- 14 billion in 2002, annual expenditures for health and lost productivity due to ASTHMA - *National Heart, Lung and Blood Institute Chart book*

# *Asthma is a rapidly growing public health problem*

- African Americans continue to have higher rates of ASHTMA emergency room visits, hospitalizations, and deaths
- Hispanics living with ASTHMA report more ASTHMA attacks and visits to the doctor more frequently for urgent ASTHMA care
- Americans with lower income levels report higher ASTHMA prevalence than those at higher income levels
- Low income populations and minorities experience disproportionately higher morbidity and mortality due to ASTHMA

## *Asthma and children*

- The number of deaths related to ASTHMA in children nearly tripled between 1979 and 1996.
- the leading chronic illness among children.
- the third-ranking cause of hospitalization among children under 15 years
- accounts for one-third of all pediatric emergency room visits
- the fourth most common cause of pediatric visits to the doctor's office
- An average of one out of every 13 school-age children has ASTHMA.
- The percentages are rising more rapidly in preschool-age children than in any other group.



# *Asthma and children in the Mid-Atlantic Region*

- Estimated Pediatric ASTHMA in the Mid-Atlantic States:

Pennsylvania – 199,249

Maryland – 99,204

Virginia – 96,738

West Virginia – 17,395

Delaware – 15,764

District of Columbia (D.C.) – 9,318

*Pediatric asthma estimates are for those under 18 years of age and represent the estimated number of people who had asthma in 2002 based on national rates applied to county population estimates (US Census)-American Lung Association, State of the Air: 2004*

## *What causes Asthma?*

- Unknown (Several theories)
- Genetics
- Income/poverty
- Smoking during pregnancy
- Environmental exposures (environmental triggers)

## *Asthma and it's Triggers*

- Indoor Environmental Triggers:

Exposure to secondhand smoke

Irritants such as commercial products (perfumes, detergents and/or cleaning products, etc.)

Dust mites

Pet dander

mold

# *Asthma and its Triggers*

- Outdoor Environmental Triggers:

Ozone ( $O_3$ )

Particulate matter (PM)

Sulfur dioxide ( $SO_2$ )

Nitrogen dioxide ( $NO_2$ )

# *Ambient Air Pollutants as Asthma Triggers*

- Ozone ( $O_3$ )

High ozone levels causes more people with ASTHMA to have ASTHMA attacks that require medical attention

Ozone makes people more sensitive to allergens (pet dander, pollen and dust mites, etc.)

25% of asthmatics live in areas that do not meet the national air quality standard for ground-level ozone

# *Ambient Air Pollutants as Asthma Triggers*

- Particulate matter (PM)

found to cause increased risk of mortality

hospital admissions

decreases in lung function

respiratory health effects have been associated with both short-term and long-term exposure to PM

children and adults with ASTHMA are considered to be among the groups most sensitive to respiratory effects of PM

# *Ambient Air Pollutants as Asthma Triggers*

- Sulfur dioxide (SO<sub>2</sub>)

poses particular concerns for those with ASTHMA;

short-term exposures of asthmatics to elevated levels of SO<sub>2</sub> while exercising at a moderate level, may result in wheezing, chest tightness, and/or shortness of breath;

long-term exposures to high concentrations of SO<sub>2</sub>, associated with high levels of PM may result respiratory illness and changes in the lung's defenses

# *Ambient Air Pollutants as Asthma Triggers*

- Nitrogen dioxide (NO<sub>2</sub>)

decreased lung function

increased respiratory symptoms or illness

increased symptoms in children with ASTHMA

a major contributor to the formation of ground-level ozone.



## *Activity in Region 3 - MARAI*

- President's Task Force on Environmental Health Risks and Safety Risks to Children—Executive Order 13045
  - Four priority areas:
    - Asthma
    - Lead
    - Unintentional Injuries
    - Health School Environments
- The Mid-Atlantic Regional Asthma Initiative (MARAI)
  - MARAI is a joint collaboration with Region III and the Department of Health and Human Services (DHHS)
  - A stakeholder driven initiative

## *Activity in Region 3*

- **Grant funding have been dedicated to the following ASTHMA awareness projects:**
  - The Health Federation of Philadelphia - provided the American Lung Association's *"Open Airways for Schools"*
  - Children's Hospital of Philadelphia (CHOP) - *Community Asthma Prevention Program (CAPP)*;
  - National Nursing Centers Consortium – *Asthma Safe Kids* American Lung Association (Southeastern, PA) – *"Camp SuperStuff"*
  - Keystone Mercy and *The Healthy Hoops Coalition* (Philadelphia, PA)

# *National Regulatory Programs*

- EPA Administrator Mike Leavitt has recently signed a number of clean air rules:

The Clean Air Interstate Rule

The Clean Air Diesel Rule

New Clean Air Non-road Diesel Rule

Designations for the 8-hour ozone and PM standards

## *Conclusion*

- ASTHMA is a serious lung disease affecting children and adults
- Through partnerships, grant opportunities and regulatory requirements EPA makes a difference in combating ASTHMA in the Mid-Atlantic Region
- EPA encourages you to find ways to further improve our Region's air quality and reduce the number of individuals who suffer from this chronic lung disease called ASTHMA
- [www.epa.gov/asthma](http://www.epa.gov/asthma)



**"I FEEL LIKE A FISH** WITH NO WATER."

-JACOB, AGE 5 - DESCRIBING ASTHMA