

Asthma in Washtenaw County

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What is Asthma



Definition of Asthma

- Chronic inflammatory disease of the airways characterized by:
 - Recurrent episodes of wheezing
 - Shortness of breath
 - Chest tightness/pain
 - Coughing
- Airflow limitation is at least partially reversible
- Airways are supersensitive and react to a variety of stimuli or triggers

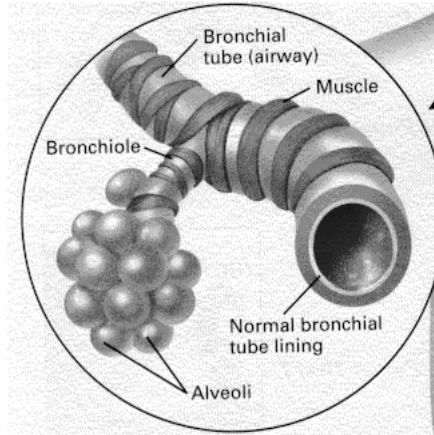


Asthma Pathophysiology

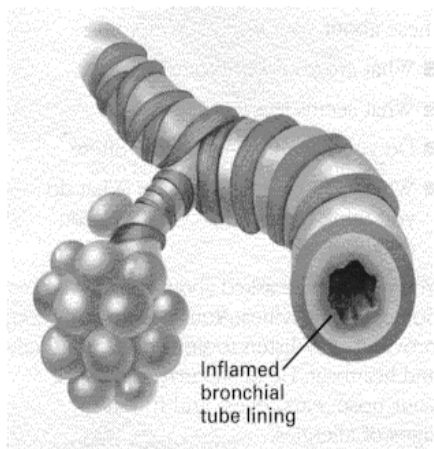
- In response to a trigger:
 - Airway inflammation
 - Bronchial smooth muscles constriction (bronchospasm)
 - Increased mucus production
 - The airways become narrow and breathing becomes difficult



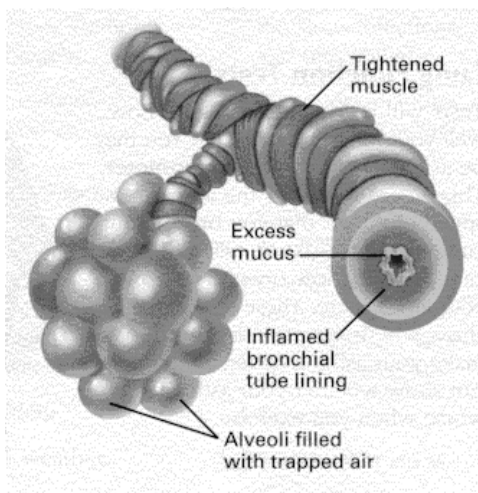
Normal Airways



Asthma Airways



Asthma Airways



Risk Factors that Lead to Asthma Development

Predisposing Factors

- Atopy
- Gender

Causal Factors

- Indoor Allergens
 - Domestic Mites
 - Animal Allergens
 - Cockroach Allergens
 - Fungi
- Outdoor Allergens
 - Pollens
 - Fungi
- Occupational Sensitizers

Contributing Factors

- Respiratory Infections
- Small Size at Birth
- Diet
- Air Pollution
 - Outdoor Pollutants
 - Indoor Pollutants
- Smoking
 - Passive Smoking
 - Active Smoking





Factors that Exacerbate Asthma

- Allergens
- Respiratory infections
- Exercise and hyperventilation
- Weather Changes
- Sulfur dioxide
- Food, additives, drugs



Magnitude of the Problem

- 150 million asthmatics worldwide
- Prevalence increasing in most countries (20 to 50% every ten years)
- Significant cause of school/work absence
- Health care expenditures very high
- 1 million unnecessary deaths each decade



Local Epidemiology



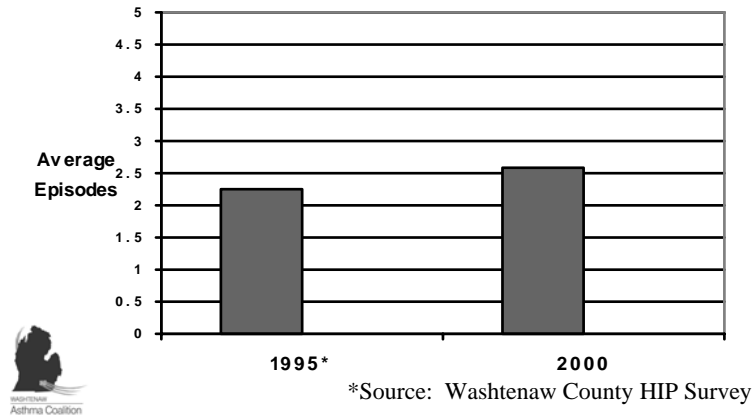
**Figure 2. Asthma Prevalence
in Children <18 Years in Washtenaw County
and United States**



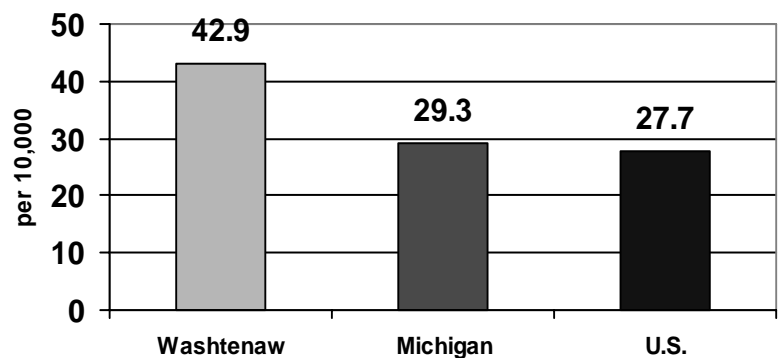
*Source: Washtenaw County HIP Survey

**Source: NHIS (National Health Interview Survey)

**Average Number of Asthma Episodes During
the Past 12 Months for those Who Have
Ever Been Diagnosed with Asthma*
Children < 18 Years
Washtenaw County 1995 & 2000**

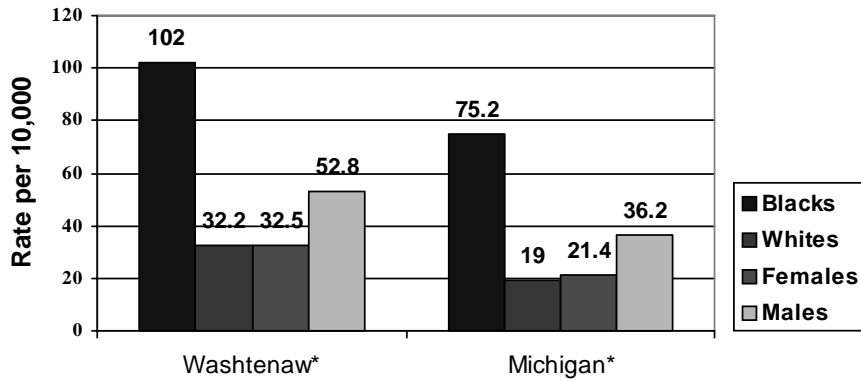


**Figure 3. Asthma Inpatient Hospitalization Rates per 10,000
in Children <15 Years
Washtenaw County* Michigan* (1990-1998)
United States** (1998)**



*Source: Michigan Department of Community Health & Washtenaw County Public Health

Figure 4. Asthma Inpatient Hospitalization Rates per 10,000 Children <15 Years Washtenaw County* Michigan*(1990-1998)



*Source: Michigan Department of Community Health & Washtenaw County Public Health

Summarizing the Data

- Asthma has complex set of symptoms, diagnostic criteria, causes and outcomes
- Nationally, asthma prevalence and hospitalization rates have increased during the past couple decades, especially for children and black population (mortality)
- Locally, asthma prevalence (not mortality) rates for Washtenaw County residents were higher than those for Michigan or U.S. These rates decreased during the period of 2000-2002.
- For Washtenaw County children, zip codes in the SE portion of Washtenaw (Ypsi, Milan & Pittsfield), have higher prevalence, hospitalization and ER visits



New Data

- 2000-2002 data from the Michigan Department of Community Health show that Washtenaw County numbers are improving.
 - Hospitalization rates for all ages are decreasing
 - Hospitalization rates for children (<18yo) are decreasing and have almost achieved the Healthy People 2010 Objective.



HOWEVER

- 48197 and 48198 zip codes still have higher rates for hospitalization due to asthma



Disparities in Michigan's Asthma Burden

- Asthma hospitalization rates are highest in young children, black residents, and in urban areas.
- Asthma hospitalization rates in Michigan are three to five times higher in blacks as in whites
- Mortality rates are higher for black residents and in urban areas

– From: "Healthy Michigan 2010" Report



Addressing the Problem in Washtenaw County



Washtenaw Asthma Coalition

The mission of the Washtenaw Asthma Coalition is to prevent the development of asthma and to improve the quality of life of asthmatics through community-wide collaboration.



Washtenaw Asthma Coalition

- Community education
- MARK kit distribution
- State level involvement
- Networking
- Information Dissemination





WASHTENAW

Asthma Coalition

