



## Children's Environmental Health Disparities: Black and African American Children and Asthma

This fact sheet focuses on relationship between environment and asthma among Black and African American children. This fact sheet also provides important actions that can be taken to protect all children.

Pollution in the environment may harm children more than adults. This is because children's bodies are still growing. Also, they eat more, drink more, and breathe more in proportion to their body size than adults. And children's normal behavior can expose them more to pollution. This means that exposure to a given amount of pollution results in a larger quantity of the pollutant in children's bodies compared to adults.

Children of racial and ethnic minorities and poor children may be exposed to more pollution.<sup>93</sup> Thus, they may face the biggest health risks from pollution. This fact sheet describes Black and African American children's environmental health risks related to asthma. It also tells you how you can take actions to protect all children.

The burdens of asthma fall more heavily on Black children. In 2001-2005, Black children, regardless of family income, reported higher rates of asthma. Thirteen percent of Black children had asthma. This compares to 8% of White, 8% of Hispanic, and 12% of American Indians and Alaskan Natives children. (See Figure 1.)<sup>14</sup> Since 1980, the difference in asthma rates between Black and White

children has become larger.<sup>15</sup> Black children are twice as likely to be hospitalized for asthma and are four times as likely to die from asthma as White children.<sup>16,17</sup>

### What is Asthma?

Asthma is caused by the narrowing or blocking of the lung airways. People with asthma often have trouble breathing. They may experience wheezing and shortness of breath. They may feel pain or tightness in the chest and cough at night or early morning.<sup>13</sup> However, children can have symptoms at anytime.<sup>84</sup>

Asthma is a leading chronic disease affecting children. About 6.5 million children in the United States have asthma.<sup>103</sup> It is a major reason for children going to the hospital or being absent from school.

Asthma rates have increased worldwide.<sup>85</sup> The US rate increased 75% from 1980 to 1994. The largest increase was among children up to 4 years old (160%). Rates among children 5 to 14 years old increased by 74%.<sup>86</sup>

Increases in asthma rates among poor minorities have been even

larger than the averages. They have also had larger increases in deaths from asthma.<sup>87</sup>

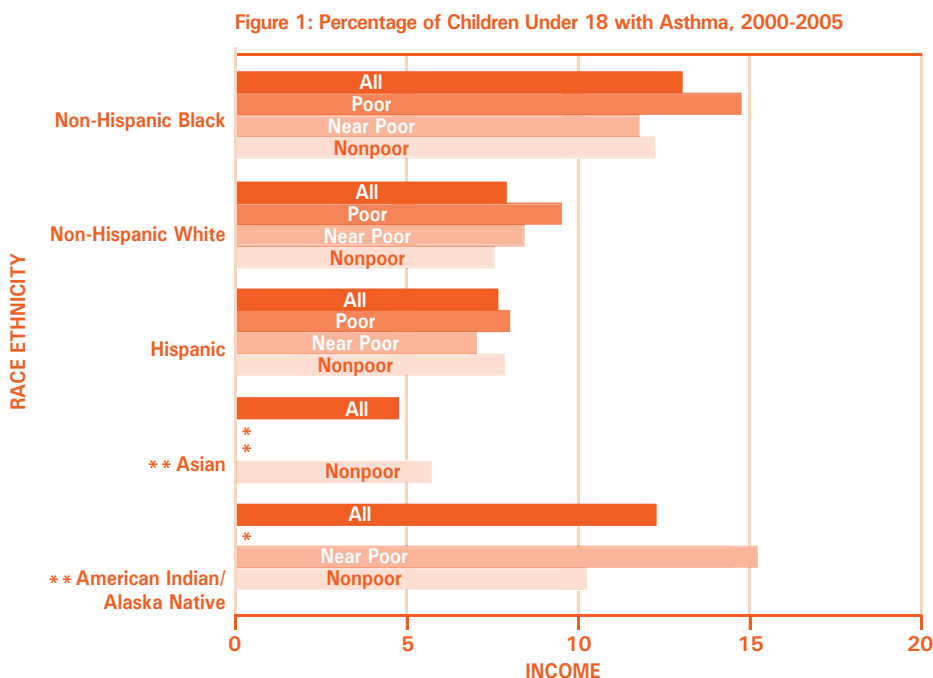
Asthma is a complex disease with a number of causes. Some children may inherit a tendency to develop asthma. Racial and ethnic differences in the burden of asthma may be related to social and economic status, access to health care, and exposure to environmental triggers.<sup>13</sup>

### Asthma Triggers

Asthma cannot be cured. However, people with asthma can manage the disease by avoiding triggers, both indoors and outdoors and using medications.<sup>18</sup> Triggers are objects or pollutants that cause asthma symptoms (e.g. shortness of breath, cough, wheezing and chest tightness in someone who already has developed asthma) or make them worse.<sup>18</sup>

■ **Indoor Triggers:** Secondhand smoke, dust mites, cockroaches, pets with fur or feathers, household pests, mold, household sprays, and nitrogen dioxide (from gas appliances) can make asthma worse and/or provoke asthma attacks.<sup>19, 20, 88</sup>

## Asthma



SOURCE: National Center for Health Statistics [http://www.cdc.gov/nchs/health\\_data\\_for\\_all\\_ages.htm](http://www.cdc.gov/nchs/health_data_for_all_ages.htm)

\* Unreliable data

\*\* Includes Hispanics

■ **Outdoor Triggers:** High levels of air pollution (ozone, nitrogen oxides, acidic aerosols, and fine particles) in the air are also associated with making asthma symptoms worse.<sup>21, 22, 89</sup> These pollutants come from smoke, dust, and emissions from cars, factories, and power plants. Exposure to high levels of ozone may trigger asthma attacks or cause children to develop asthma. The risk is greatest when children exercise or play sports outdoors when ozone levels are high.<sup>23</sup> Ozone levels are usually highest in summer. Particle pollution can be high any time of year and is higher near busy roads.

### What Can You Do?

If your child has asthma or you suspect he or she has asthma, visit a doctor. Ask the doctor to help you learn which triggers affect your

child's asthma, and ways to help your child avoid these triggers at home, school, and play. Work with your child's doctor to develop an asthma management plan. Be sure to share a copy of the plan with your child's teacher and school nurse. For more information on indoor asthma triggers and developing an asthma management plan, visit <http://www.epa.gov/iaq/asthma/triggers.html>

Watch for the Air Quality Index during your local weather report. The index uses colors to show how much pollution is in the air. Green and yellow mean air pollution levels are low. Orange, red, or purple mean pollution is at levels that may make asthma worse. (See Figure 2.)

**Black children have nearly two times the rates of current asthma as White children.**

State agencies use TV and radio to warn the public of ozone alerts. On Ozone Action Days, people with asthma should spend less time being active outdoors. Early mornings or late evenings are better times for outdoor activities when ozone is expected to be high.

Many communities have programs and resources to help families. Find a community asthma program near you by visiting the Communities in Action for Asthma-Friendly Environments Network at <http://www.asthmacommunitynetwork.org>. If you work with a community asthma program, join the Network to have access to information, tools, and proven strategies for improving the health of people with asthma.

Figure 2: US EPA's Air Quality Index color codes.

Air Quality Index (AQI) Values	Levels of Health Concern	Colors
<i>When the AQI is in this range:</i>	<i>...air quality conditions are:</i>	<i>...as symbolized by this color:</i>
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for Sensitive Groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very Unhealthy	Purple
301 to 500	Hazardous	Maroon

SOURCE: US EPA's AirNow website <http://airnow.gov/index.cfm?action=static.aqi>



Get involved with groups that promote policies to improve air quality. For example, some groups work to prohibit smoking in public places. Others work with local governments to help improve air quality.

An example of a successful community organization is Detroiters Working for Environmental Justice (DWEJ). They convinced the city to buy new vehicles for its fleet that run on “clean” fuels instead of diesel. The new vehicles improve air quality. DWEJ accomplished this through a number of activities. They presented local air quality data at city council meetings. They held community meetings around Detroit and invited state and city officials. They helped citizens write comments to the Metropolitan Planning Organization. And they helped

citizens get appointed to the Detroit Department of Transportation community board. For more information on DWEJ visit <http://www.dwej.org/> or call 313-833-DWEJ (3935).

### What’s Being Done?

Here are some examples of efforts by Federal governmental agencies, local and national organizations to childhood asthma.

EPA’s Asthma Initiative supports research, education, and public outreach to help people with asthma. Learn more at [www.epa.gov/asthma](http://www.epa.gov/asthma).

EPA’s Indoor Air Quality Tools for Schools Program helps schools identify and prevent environmental asthma triggers. It also promotes healthy school environments. For more information visit <http://epa.gov/iaq/schools>.

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EPA’s Asthma Home Environment Checklist gives explains how to conduct home environmental assessments. This checklist can help identify asthma triggers in the home. For a copy of the checklist visit [http://www.epa.gov/asthma/pdfs/home\\_environment\\_checklist.pdf](http://www.epa.gov/asthma/pdfs/home_environment_checklist.pdf).

The Community Asthma Education Prevention Program (CAPP) of Philadelphia provides asthma education classes to patients and their families, child care providers, and school personnel. CAPP also provides in home environmental assessments to eligible patients. For more information please email CAPP at [cap@email.chop.edu](mailto:cap@email.chop.edu) or call (215) 590-5621.

Allies Against Asthma (AAA) helps community groups concerned about asthma in children. AAA also provides lists of asthma education programs across the US. For more information about asthma programs in your area visit: <http://www.asthma.umich.edu/index.html> or call 734-615-3312.

The New England Asthma Regional Council promotes healthy housing, healthy schools, and home assessments to identify and reduce asthma triggers. In addition, the Council is building an asthma tracking system across New England which links health data with environment data. For more information visit: <http://www.asthmaregionalcouncil.org> or call 617-451-0049 x504.

## Asthma





## RESOURCES:

For more information on children's environmental health, visit the EPA's Office of Children's Health Protection and Environmental Education at <http://yosemite.epa.gov/ochp/ochpweb.nsf/content/homepage.htm>. You can also call the office at (202) 564-2188.

- America's Children and the Environment data/indicators, <http://www.epa.gov/envirohealth/children/index.htm>
- Office of Minority Health, Centers for Disease Control and Prevention, <http://www.cdc.gov/omh/>
- Pediatric Environmental Health Specialty Units, [www.apec.org/PEHSU.htm](http://www.apec.org/PEHSU.htm) or call toll free 1-888-347-2632

- Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers, <http://www.neefusa.org/health/asthma/astmaguidelines.htm>

- National Center on Minority Health and Health Disparities, National Institutes of Health, <http://ncmhd.nih.gov/>

- African American Health Care and Medical Information, <http://www.blackhealthcare.com>

- African American Health Network, National Medical Association, <http://www.aahn.com>

- Kaiser Family Foundation Health Disparities Report: A Weekly Look at Race, Ethnicity and Health/ [http://kaisernetwork.org/daily\\_reports/rep\\_disparities.cfm](http://kaisernetwork.org/daily_reports/rep_disparities.cfm).

- DiversityData, Harvard School of Public Health website on indicators of how people of different racial/ethnic backgrounds live includes comparative data about housing, neighborhood conditions, residential integration, and education, [www.DiversityData.org](http://www.DiversityData.org)

- Unnatural Causes, a TV documentary series and public outreach campaign on the causes of socioeconomic racial/ethnic inequities in health, <http://www.unnaturalcauses.org/>