A report from the New York City Community Health Survey

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New York City Department of Health and Mental Hygiene February 2008 Volume 7, No. 1

Childhood Asthma in New York City

Asthma is common among children, nationally and in New York City (NYC). As of 2005, 13% of U.S. children 0 to 17 years of age had been diagnosed with asthma at some time in their lives.

People with asthma have chronic lung inflammation and episodes of airway tightening that cause symptoms such as wheezing, coughing and shortness of breath. Although there is no cure for asthma, it can be controlled with anti-inflammatory medicines (preferably inhaled corticosteroids) and by avoiding exposure to triggers. With good control, almost all children with asthma can lead normal, active lives.

In NYC, asthma is a leading cause of absences from school and the most common cause of hospitalization for children ages 14 and younger. Although NYC asthma hospitalizations are higher than national levels, the number has declined since the mid-1990's, most likely as a result of improved asthma control.

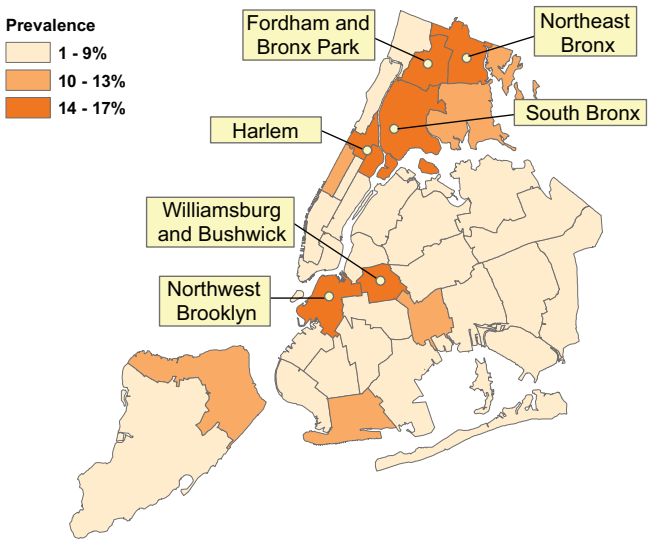
This report examines the prevalence of childhood asthma and factors that may influence its control among NYC children ages 0 to 17. The results are based on findings from a large, representative telephone survey of adults in 2003 who were asked about the health conditions of children in their household, including asthma.

In 2003, approximately **320,000 New York City children ages 0 to 17 had been diagnosed with asthma** at some point in their lives, and **170,000 of those children had experienced an asthma attack** or episode within the past year (current asthma).

Childhood asthma rates in New York City exceed national rates, especially in certain neighborhoods

- Overall, 17% of children ages 0-17 in NYC have been diagnosed with asthma at some time in their lives, compared with 13% of children nationwide.
- Nearly 1 in 10 NYC children (9%) are classified as having current asthma. This is almost twice the prevalence among children nationally (5%).
- Current asthma is most common among children who live in the Northeast Bronx, Fordham and Bronx Park, South Bronx, East and Central Harlem, Northwest Brooklyn, Williamsburg and Bushwick.

Current Asthma Among Children (0-17 years) by Residence, New York City



This report is based on the 2003 New York City Community Health Survey, in which adults ages 18 and older representing every neighborhood in New York City were interviewed by telephone about their health and the health of children in their household. For full survey details, see: nyc.gov/health/survey. Data from other sources include the 2003 New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS), neighborhood income data from U.S. Census 2000 and the New York City Department of City Planning, and the National Center for Health Statistics' "Asthma Prevalence, Health Care Use and Mortality: United States 2003-05," available at: www.cdc.gov/nchs/products/pubs/pubd/hestats/ashtma03-05/asthma03-05.htm.

Children living with Hispanic, black, U.S.-born and less-educated adults are at highest risk for current asthma

Prevalence of Current Asthma in Children by Adult Demographics *

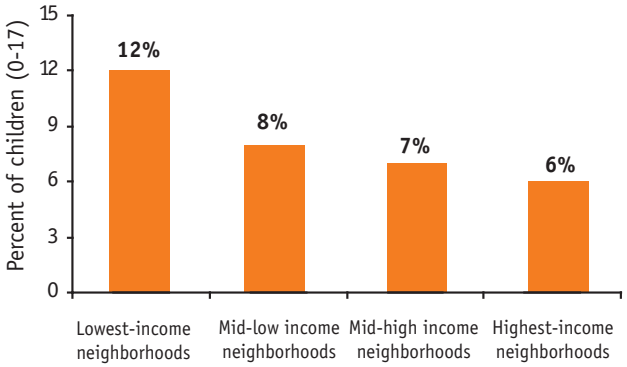
	Percent (%) of children (0-17 years)
Total	**9**
Adult Race/Ethnicity	
White, non-Hispanic	4
Hispanic	12
Black, non-Hispanic	10
Other	5
Adult Birthplace	
United States **	12
Foreign country	5
Adult Education Level	
No college degree	10
College degree	5

* Relationship between adult respondent and children is unknown.
** Including Puerto Rico and other U.S. territories.

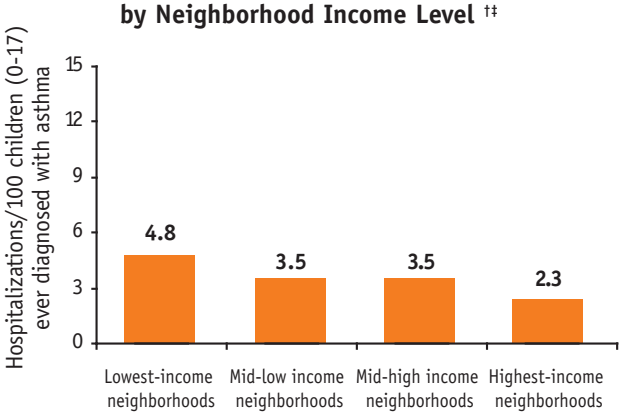
- Using adult race/ethnicity as a proxy for children, current asthma levels are elevated among Hispanic (12%) and black children (10%) compared to white children (4%).
- Children living with U.S.-born adults are more than twice as likely to suffer from current asthma compared to children living with foreign-born adults (12% vs. 5%).
- Among children living with adults who are not college graduates, 10% have current asthma, compared to 5% of children living with college educated adults.

Children from low-income neighborhoods are more likely to have asthma and to have poorly controlled asthma

Prevalence of Current Asthma in Children by Neighborhood Income Level †



Child Hospitalizations Due to Asthma by Neighborhood Income Level †‡



- Overall, 22% of children in low-income neighborhoods have been diagnosed with asthma at some time in their lives, compared to 14% in high-income neighborhoods.
- Current asthma levels are twice as high among children living in the lowest-income neighborhoods compared to children living in the highest-income neighborhoods (12% vs. 6%).
- In low-income neighborhoods, children are hospitalized due to asthma more frequently than in high-income neighborhoods (4.8 vs. 2.3 hospitalizations per 100 children ever diagnosed with asthma). Asthma hospitalizations may be an indication of poorly controlled asthma and of higher levels of exposure to asthma triggers.

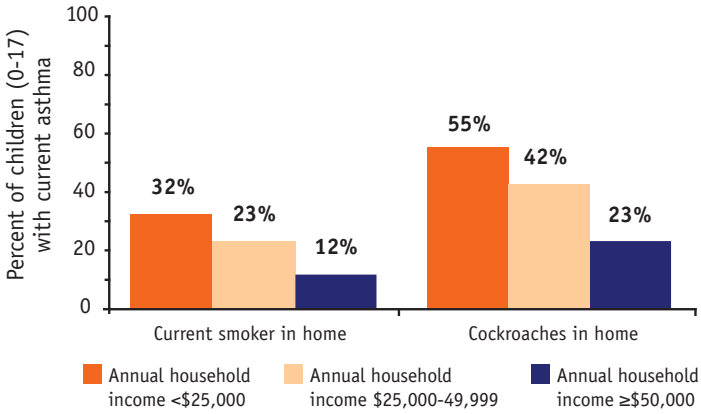
† Neighborhood income categories based on U.S. Census 2000 / NYC Department of City Planning.
‡ Numerators (2003 hospitalizations due to asthma among children 0-17) from the New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS). Denominators (children 0-17 ever diagnosed with asthma) estimated from the 2003 NYC Community Health Survey.

Children of low-income families are more likely to be exposed to known asthma triggers in their homes, including secondhand smoke and pests

Among children with current asthma:

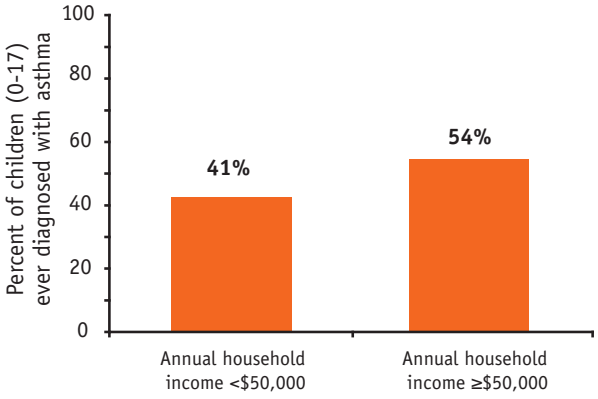
- Citywide, 25% live with an adult who smokes, and 47% have had cockroaches seen in their home in the past 30 days.
- Those in low-income households are more likely to live with an adult who smokes compared to those living in high-income households (32% vs. 12%).
- More than half in low-income households (55%) had cockroaches seen in their homes the last 30 days, compared to one quarter from high-income households (23%).

Prevalence of Common Asthma Triggers among Children with Current Asthma



Most children with asthma do not have Asthma Action Plans

Prevalence of Asthma Action Plans among Children Ever Diagnosed with Asthma



- Overall, less than half of children ever diagnosed with asthma (42%) have received a written asthma management plan from a health care provider.
- Children from high-income households are more likely to receive a management plan than children from low-income households (54% vs. 41%).
- There is no difference in the prevalence of asthma management plans (41%) between children from households with an annual income less than $25,000 vs. households with an annual income of $25,000-50,000.

An **Asthma Action Plan (AAP)** is a written set of instructions that helps children and families remember their treatment plan and follow it at home. Children with AAPs are more likely than those without AAPs to: (1) be prescribed and take preventive medication; (2) understand how to recognize and avert symptoms; and (3) maintain regular contact with physicians about the status of their asthma. Health care providers should complete an AAP for all children with asthma, and parents should administer asthma medications according to the AAP, including daily anti-inflammatory medications when prescribed.

A **Medication Administration Form (MAF)** allows children to receive their medications in school when needed. Health care providers should complete a MAF for all school-aged children with asthma.

To obtain AAPs and MAFs, visit the New York City Asthma Initiative web site at: www.nyc.gov/health/asthma or call 311 and ask for asthma information.

Recommendations

Health care providers play a critical role in getting a child's asthma under control.

- **Ensure patients take the right medicines at the right time.** Any patient with asthma symptoms more than 2 days per week should use an anti-inflammatory controller medicine every day, even on days when no symptoms are present. For most patients, inhaled corticosteroids are the most effective controller medicines to prevent asthma symptoms and attacks. Bronchodilator medicines such as albuterol provide quick relief of symptoms but do not control inflammation.
- **Work with parents to help them stop smoking.** Health care providers should encourage all patients to stop smoking, especially parents and other adults in the homes of children with asthma.

Families should be active participants in managing a child's asthma.

- **Get regular care and know when to seek emergency care.** Children with asthma should get regular checkups, even if asthma symptoms are not present. Those with persistent symptoms, with recent changes in medications, or who seek emergency treatment should have more frequent checkups. Talk to your health care provider about when to call the doctor or seek emergency care.
- **Identify triggers that make asthma worse.** Work with health care providers to identify triggers that may be making asthma worse and help children to avoid them. Common triggers include tobacco smoke, cockroaches, mice, cats, dust mites and pollen.
- **Provide a smoke-free home.** Secondhand smoke is one of the most common triggers of asthma episodes. Parents of children with asthma should quit smoking or stop smoking inside their home, and they should not allow others to smoke there.
- **Control pests safely and effectively.** New York City housing and health codes require that landlords maintain apartments free from pests. Landlords and families can take simple steps to reduce infestations. Sealing cracks and crevices, storing food in plastic containers, regularly removing trash, and using cockroach baits and gels are effective ways to reduce pests. Avoid insect sprays, bombs and foggers, and never use Tempo, Tres Pasitos, Cockroach Chalk or other illegal pesticides.

For more information on asthma and how to manage it, see the New York City Asthma Initiative web site: www.nyc.gov/health/asthma or call 311 and ask for asthma information.

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Suggested citation: Schwarz AG, McVeigh KH, Matte T, Goodman A, Kass D, Kerker B. Childhood Asthma in New York City. NYC Vital Signs 2008, 7(1): 1-4.

EPI220VS11 - 2.08