



NYC Vital Signs

New York City Department of Health and Mental Hygiene

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Preventing and Treating Childhood Asthma in NYC

Asthma is a serious problem for children in the United States and New York City (NYC). In 2009, more than seven million children 17 years of age and younger suffered from asthma nationwide.¹ In NYC, about 177,000 children 12 years of age and younger were ever diagnosed with asthma. Uncontrolled childhood asthma can result in missing school, visits to the emergency department and hospital admissions.

While it is not fully understood what causes asthma, ways to prevent and manage symptoms are well established. They include anti-inflammatory medication to prevent asthma episodes, such as

inhaled corticosteroids, and avoidance of environmental asthma triggers, like household pests, mold, or cigarette smoke.

This report examines the prevalence and treatment of asthma among children 12 years of age and younger in New York City. It also highlights racial and ethnic, income and neighborhood disparities in asthma-related emergency room visits and hospital admissions. Page four provides recommendations for managing and treating childhood asthma.

¹ Akinbami LJ, Morrman JE, Liu X, Asthma prevalence, health care use, and mortality: United States 2005-2009. National Health Statistics Reports. 2011; 32.

Asthma is more common among low-income, Hispanic and black children

- In 2009, 13% of New York City children 12 years of age and younger (177,000) had ever been diagnosed with asthma, according to parent reports.
- Boys were more likely to have ever been diagnosed with asthma than girls (15% vs. 11%).
- One in five Hispanic children (85,000) and almost one in six black children (58,000) had ever been diagnosed with asthma.
- Children living in the poorest households were almost twice as likely to ever be diagnosed with asthma as those living in the wealthiest households (15% vs. 8%).

Prevalence of ever diagnosed asthma among NYC children 12 years and younger, 2009

	%	#
All Children	13	177,000
Sex		
Male	15	102,000
Female	11	75,000
Age (years)		
0-5	9	60,000
6-12	17	117,000
Race / Ethnicity		
White	5	20,000
Black	17	58,000
Hispanic	18	85,000
Asian / Pacific Islander	8	12,000
Other	5*	2,000
Household Income (% of federal poverty level)		
High poverty/poorest (<200%)	15	109,000
Medium poverty (200-399%)	14	31,000
Low poverty/wealthiest (≥400%)	8	24,000

Source: NYC Child Community Health Survey 2009.

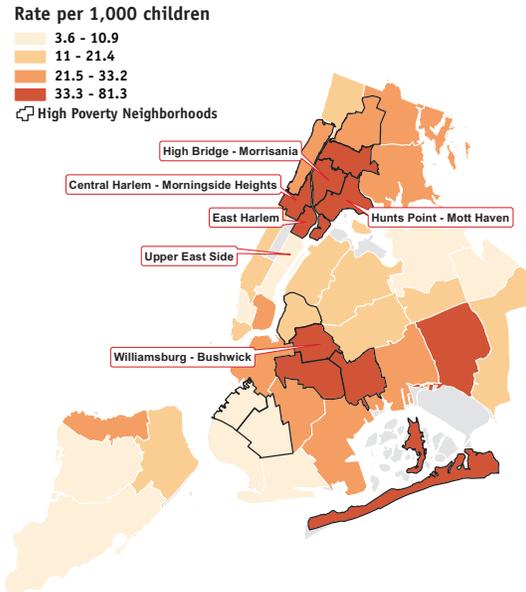
*Estimate should be interpreted with caution due to small sample size.

Data presented in this report are from the 2009 New York City Child Community Health Survey (CCHS) and the New York State Statewide Planning and Research Cooperative System (SPARCS) 2010 (updated March 2011). The CCHS was a population-based telephone survey conducted with support from Children's Health Fund. A parent, guardian or other knowledgeable adult (referred to as "parent," as 92% of respondents were either the child's mother or father) was interviewed about the health of one child in the selected household for a sample of 3,002 children. SPARCS captures data on all emergency department visits and inpatient hospitalizations in New York State, and data presented here are limited to NYC residents. Population denominators used for rates were produced by DOHMH based on the US Census Bureau Population Estimate Program, vintage estimates for each year, and housing unit data from the NYC Dept of City Planning (DCP).

In 2009, the rate of child asthma-related emergency department visits in the poorest neighborhoods was three times the rate in the wealthiest

- In 2009, almost half (47%) of all children with asthma in NYC had an asthma episode in the past year, according to parent reports. Almost two thirds (61%) or 51,000 children of those with reported asthma episode visited an emergency department or urgent care clinic due to asthma.
- In 2009, rates of asthma-related emergency department visits among all children 12 years of age and younger were highest in East Harlem (81 per 1,000 children) and Central Harlem (79/1,000) in Manhattan, Highbridge-Morrisania (61/1,000) and Hunts Point-Mott Haven (68/1,000) in the Bronx, and Williamsburg-Bushwick (49/1,000) in Brooklyn.
- Rates of child asthma-related emergency department visits were three times higher in the poorest neighborhoods than in the wealthiest (40 vs. 13 per 1,000).
- Even more striking is the disparity of some adjacent neighborhoods. Children in East Harlem, for example, are almost thirteen times more likely than children living on the Upper East Side to visit the emergency room for asthma-related issues (81 per 1,000 vs. 6.4 per 1,000).

Asthma-related emergency department visits in NYC

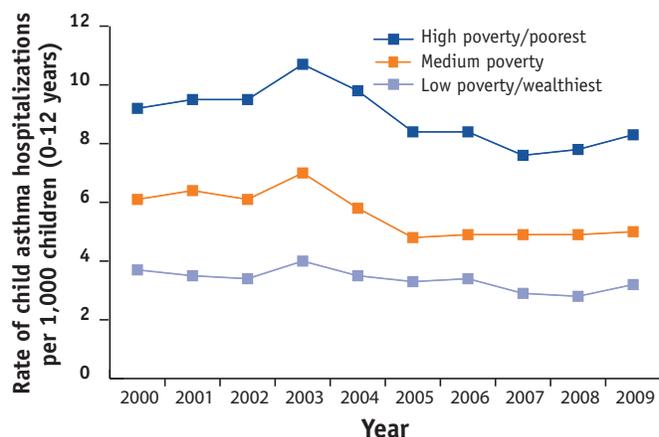


Source: NYSDOH SPARCS, 2009. Neighborhood (based on United Hospital Fund areas) poverty defined as proportion of residents with incomes below 200% of the Federal Poverty Level, per Census 2000.

Child asthma hospitalization rates have decreased across New York City

- Most child asthma hospitalizations are preventable with proper management and treatment. In 2009, there were 174,905 hospitalizations among NYC children 12 years of age and younger. Of those, about 5% (8,297) were asthma-related.
- Between 2000 and 2009, the number of children hospitalized due to asthma dropped slightly in all neighborhoods, but there were still disparities. In 2009, children with asthma living in poor neighborhoods were two and a half times more likely to be hospitalized than those in wealthier neighborhoods (8/1,000 vs. 3/1,000).
- Child asthma hospitalization rates in the Bronx (11 per 1,000 children) were two to three times higher than those in other boroughs—Brooklyn: 6/1,000, Manhattan: 4/1,000, Queens: 4/1,000, and Staten Island: 2/1,000.

Asthma-related hospitalizations among children (aged 0 to 12) by NYC neighborhood, 2000–2009

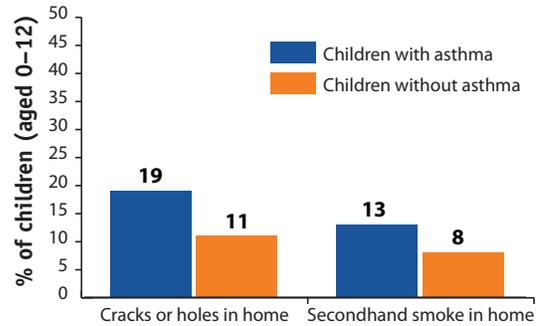


Source: NYSDOH SPARCS, 2000-2009. Neighborhood (based on United Hospital Fund areas) poverty defined as percent of residents with incomes below 200% of the Federal Poverty Level, per Census 2000.

More than one in eight children with asthma are exposed to potential asthma triggers in the home

- Pests produce allergens that trigger asthma episodes in children. Cracks, holes or moisture in the interior walls, ceilings or floors may predispose homes to infestations of cockroaches, rodents or mold.
- In 2009, children with asthma were more likely to have lived in homes with cracks or holes compared with children without asthma (19% vs. 11%), according to parent reports.
- Secondhand smoke also triggers asthma episodes among children. Children with asthma were more likely to have lived in homes where someone smoked at least occasionally compared with children without asthma (13% vs. 8%) according to parent reports.

Percent of NYC children (aged 0 to 12) living in homes with common asthma triggers



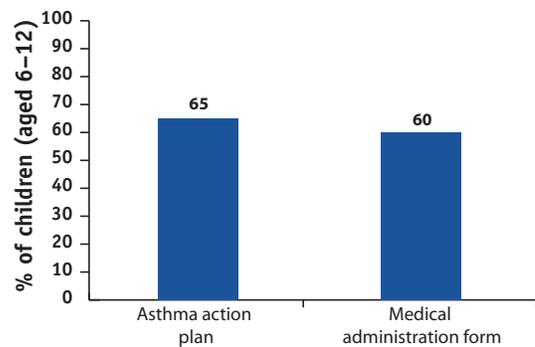
Source: NYC Child Health Survey 2009

Asthma and the environment. The causes of asthma are unknown. Researchers have found that a combination of family history and exposures to a host of environmental agents can play a role in the development of asthma. Environmental causes of asthma exacerbation are better understood. Secondhand smoke is an important environmental trigger of asthma episodes, other respiratory illness, and ear infections. In addition, the presence of cockroaches and mice, both known to exacerbate asthma, are far more common in high-poverty neighborhoods, which are also most affected by asthma. Common outdoor triggers include exposure to pollen and pollution from fuel combustion (such as ozone and particulates). For more information, search **Environmental Public Health and Sustainability Tracking Portal** at nyc.gov.

One in three children taking prescribed asthma medications does not have an asthma action plan or a medical administration form

- Every child with asthma should have an asthma action plan (AAP) and all school children with asthma should have both an AAP and a medical administration form (MAF).
- In 2009, only 65% and 60% of children with asthma aged six to 12 who had an asthma episode in the past year and who take asthma medication had an AAP and MAF, respectively, according to parent reports.

Percent of asthma action plans and medication administration forms among children (aged six to 12) taking asthma medication and who had an asthma episode in past 12 months, 2009



Source: NYC Child Community Health Survey 2009

An **asthma action plan** (AAP) is a set of written instructions created by health care providers in partnership with parents/caregivers to help children and families remember the asthma treatment plan. A **medical administration form** (MAF) allows a student with asthma to have access to asthma medications in school.

Recommendations

Health care providers play an important role in controlling a child's asthma.

- Complete an Asthma Action Plan for all patients with asthma and a Medical Administration Form for school-aged children. At every visit, review and reinforce key treatment plan instructions, including appropriate medications. For more information, visit City Health Information at <http://www.nyc.gov/html/doh/downloads/pdf/chi/chi27-10.pdf>.
- Encourage parents/caregivers to quit smoking. Educate parents/caregivers of the danger of secondhand smoke to children with asthma and work with family members to help them stop smoking. For help quitting, visit Quitline at www.quitline.com or call at 1-800-QUIT-NOW.
- Encourage parents/caregivers to talk with landlords about household problems that may trigger asthma episodes.

Families should actively participate in managing a child's asthma.

- Get regular care and know when to seek emergency care for your child. Take your child to the doctor for regular asthma check-ups, even when no asthma symptoms are present. Talk to your health care provider about when to call the doctor or seek emergency care.
- Identify asthma triggers in the home and try to reduce or eliminate them. Common triggers include tobacco smoke, cockroaches, mold and mildew, mice, pet dander, dust mites and pollen.
- Provide a smoke-free home. Family members living with children with asthma should quit smoking or stop smoking at home, and should not allow others to smoke in their home.
- Tell the school that your child has asthma and provide them with a completed Medication Administration Form from your child's doctor. Inform the school of any changes to your child's medication throughout the year, as well as any asthma-related emergency room visits or hospitalizations. Call 311 for more information about the Open Airways for Schools program where children in grades three, four and five can learn asthma self-management skills.

Landlords and homeowners should prevent and control pest infestation and mold by:

- Promptly repairing leaks, cracks, holes and ventilation problems.
- Containing food and garbage so they don't become food for pests.
- Using only safe pest control methods when needed. For more information, see <http://www.nyc.gov/html/doh/downloads/pdf/pest/pest-bro-healthy-home.pdf>.

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