

# New York State Asthma Surveillance Summary Report

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## How to Use this Report

The data presented in this report are useful in characterizing the population(s) affected by asthma. The following table summarizes the source(s) of data used for each asthma indicator:

Asthma Indicator	Source(s) of Data
Self-Reported Asthma Prevalence and Health-Related Risk Behaviors	New York State Behavioral Risk Factor Surveillance System (BRFSS) and a county/county-grouping level from the 2002-2003 Expanded BRFSS
Asthma-Related Hospitalizations	Statewide Planning and Research Cooperative System (SPARCS)
Asthma-Related Deaths	New York State Death Certificates
Work-Related Asthma	NYS Occupational Health Clinic Network and the Occupational Lung Disease Registry
Use of Appropriate Medications for Adults and Children With Asthma	Office of Managed Care Quality Assurance Reporting Requirements (QARR) Indicators
Asthma Prevalence and Costs	Medicaid Management Information System, Medicaid Encounter Data System (MEDS)

# Executive Summary

This report compares New York State to United States 2001 and *Healthy People 2010* objectives. In addition, this report provides information regarding asthma prevalence and risk behaviors, asthma hospitalizations, asthma mortality, program-based surveillance, work-related asthma, and asthma costs.

## Healthy People 2010

- Compared to the nation (United States 2001 data), New York State has higher asthma hospitalization rates for all age groups. The State's rates are roughly two times higher than the levels targeted in the *Healthy People 2010* objectives.
- New York State has higher asthma mortality rates than the nation for all age groups except the 65+ year age group. New York meets the Healthy People 2010 objectives for the 65+ year age group; for all other age groups, New York is 2 to 5 times higher than the national objectives.

## Prevalence and Risk Behaviors

- Approximately 1.6 million adults (11.3% of the NYS population) were told by a health professional that they had asthma; about 1.1 million adults (7.6%) have current diagnosed asthma, a rate comparable to the national estimate of current asthma.
- Similar to national findings, the prevalence of current asthma among NYS women (9.5%) is nearly double the prevalence in men (5.5%).
- The prevalence of current asthma in New York differs by race/ethnicity with non-Hispanic black (8.7%), and Hispanic (8.3%) New Yorkers having higher prevalence compared to non-Hispanic white (7.2%) New Yorkers.
- Current asthma prevalence was inversely related to annual household income.
- Current smoking behavior differed only slightly between asthmatic (26%) and non-asthmatic (23%) New Yorkers.
- The prevalence of obesity is higher among those with asthma (33.6%) compared to non-asthmatic adult New Yorkers (19.4%).
- Current asthma prevalence varies at the local level, from a low of 5.9% (Suffolk County) to a high of 12.7% (Fulton/Montgomery Counties).



# NYSDOH Asthma Plan and Asthma Initiatives

## Overview of NYSDOH Asthma Plan and Asthma Initiatives

The New York State Department of Health (NYSDOH) is committed to improving the quality of life for individuals with asthma as well as their families. New York's comprehensive statewide action plan "Asthma Plan for New York State: Translating Science into Good Public Health Practice", is designed to:

- Reduce the burden of asthma among those who live in New York.
- Provide a framework for addressing asthma from a systems perspective.
- Maintain and expand asthma surveillance to track the disease and assess the effectiveness of asthma programs.
- Improve the quality of care for people living with asthma.
- Educate individuals, families, health care professionals, schools and communities about asthma.
- Support community interventions to combat asthma.
- Determine environmental factors that affect asthma and develop interventions to reduce or eliminate those factors.

Working in close collaboration with our statewide partners and New York City health officials, where asthma rates are the highest, initiatives in the city, as well as across the State, are well underway. The NYS Asthma Plan has four focus areas. Surveillance and Program Evaluation, Health Care, Community-Based Initiatives and Environmental and Occupational Health. A selection of New York's initiatives include:

#### **SURVEILLANCE AND PROGRAM EVALUATION**

- **Emergency Department Surveillance:** Legislation was passed that requires hospitals in NYS to report Emergency Department (ED) data as of January 1, 2005. ED data are being collected statewide and summarized as part of the NYSDOH SPARCS Outpatient data file. Asthma surveillance will utilize these data and produce asthma ED visit information at the aggregate level such as zip code, county, region and state levels for different age groups.
- **National Asthma Survey (NAS):** New York is one of five states that participated in the National Asthma Survey to better understand the issues surrounding asthma in New Yorkers. Reports describing results and specific analyses will be produced.

#### **HEALTH CARE**

- **Child Health Plus:** Child Health Plus provides coverage to children residing in NYS under the age of 19 with a limited family income who do not have health insurance. <http://www.health.state.ny.us/nysdoh/chplus/>
- **Family Health Plus:** Family Health Plus is available to adults between the ages of 19 and 64 who are residents of New York State and are United States citizens or fall under one of many immigration categories and who do not have health insurance and have incomes too high to qualify for Medicaid. <http://www.health.state.ny.us/nysdoh/fhplus/>
- **Healthy New York:** Healthy NY is a unique program designed for uninsured small employers, uninsured employed individuals and students who are aging off their parents' policy to purchase health insurance coverage. <http://www.ins.state.ny.us/website2/hny/english/hny.htm>
- **Medicaid Program:** Medicaid recipients have access to a benefit package that includes services necessary to manage asthma, including medications/prescription drugs, spacers, peak flows meters, nebulizers, pulmonary diagnostic tests, doctors' visits and hospital care. [http://www.health.state.ny.us/health\\_care/medicaid/index.htm](http://www.health.state.ny.us/health_care/medicaid/index.htm)

- **Medicaid Asthma Disease Management and Quality Improvement Initiative:** The New York State Medicaid Program is promoting disease management interventions in the treatment of asthma. The purpose of these interventions is to improve health outcomes for Medicaid recipients through practitioner/patient education and assuring the delivery of quality care. [http://www.health.state.ny.us/health\\_care/medicaid/index.htm](http://www.health.state.ny.us/health_care/medicaid/index.htm)
- **Quality Assurance Reporting Requirements (QARR) Report:** The QARR report measures the effectiveness of Medicaid managed care plans in treating asthma. The most recent version (2004) of this DOH report identifies how Medicaid and commercial managed care plans perform on specific health measures, including asthma. The report represents one of the most comprehensive report cards for managed care in the nation. [http://www.health.state.ny.us/nysdoh/managed\\_care/qarrfull/qarintro.htm](http://www.health.state.ny.us/nysdoh/managed_care/qarrfull/qarintro.htm)
- **New York State Asthma Guideline:** Based on national standards, an expert panel was convened and produced a decision support tool that established a common standard of care for providers and health plans. The resultant guideline tool entitled "Clinical Guideline for the Diagnosis, Evaluation, and Management of Adults and Children with Asthma – 2003" has been endorsed by professional societies, associations and health plans and distributed to over 20,000 physicians in NYS. [http://www.health.state.ny.us/nysdoh/asthma/pdf/clinical\\_guidelines\\_2003.pdf](http://www.health.state.ny.us/nysdoh/asthma/pdf/clinical_guidelines_2003.pdf)
- **Best Clinical and Administrative Practices (BCAP) Collaborative: Improving Asthma Care in New York State:** The New York State Department of Health's Office of Managed Care is partnering with the Center for Health Care Strategies (CHCS) and 13 Medicaid managed care organizations in a 21-month quality improvement collaborative. The goal of the collaborative is to improve care of individuals with asthma by implementing the recommendations from the State's "Clinical Guideline for the Diagnosis, Evaluation, and Management of Adults and Children with Asthma – 2003".

#### **COMMUNITY-BASED INITIATIVES**

- **Asthma Web site:** The NYSDOH launched an asthma website <http://www.health.state.ny.us/nysdoh/asthma/index.htm> for all New Yorkers to obtain current information on asthma surveillance, interventions, asthma care and educational materials.
- **Treatment of Students with Asthma:** The Governor signed legislation in 1998 that requires schools and

BOCES to allow students, who have been diagnosed by a physician with a severe asthmatic condition, to carry and use prescribed inhalers during the school day.

- **School-Based Health Centers:** There are 189 school-based health centers that play a critical role in providing primary and preventive care to children, including quality asthma care and management. <http://www.health.state.ny.us/nysdoh/school/index.htm>
- **Regional Asthma Coalitions:** Nine regional asthma coalitions work to mobilize community resources to reduce morbidity and mortality through advocacy, education, partnerships and interventions. Program results indicate this is an effective mechanism for addressing asthma regionally. <http://www.health.state.ny.us/nysdoh/asthma/contact.htm>
- **DOH Minority Health grants:** New York has awarded grants to 4 community-based organizations to reduce the burden of asthma in racial and ethnic minority communities. These coalitions work with schools, physicians, hospitals, the American Lung Association, local health departments, insurance plans and other community organizations to ensure that not only are children receiving the best care, but that they also are receiving coordinated care. The coalitions' core strategies include: peer education, outreach, training, and education.
- **Asthma Peer Leader Projects:** Three school-based health centers are funded to develop and implement Asthma Peer Leader projects. These projects use principles of positive youth development to expand and enhance the existing asthma services provided in the areas of education, identification and overall management of asthma. Youth serve as mentors, educators and counselors.
- **Environmental Education and Outreach Project:** A statewide asthma educational needs assessment was conducted to determine key messages and best practice educational materials on environmental and occupational triggers of asthma. This project highlights lack of communication and disconnects between providers and patients. Three new brochures intend to bridge the communication gap.
- **School Environment Assessment Project:** Childhood asthma, in relation to school environmental conditions, is being examined across the State in all public elementary schools. The purpose of this evaluation is to better understand the problem of asthma in the school setting and develop and implement targeted, evidence-based interventions.
- **Air Quality Health Advisories:** The NYSDOH and Department of Environmental Conservation commissioners issue a joint press release when ozone and fine particle air pollution levels are forecast to be of concern, especially for people with health conditions such as asthma. In addition to media outlets, local health units are notified of advisories in their region and reminded of Department of Health Web pages that provide advice on ways to reduce exposures and steps citizens can take to reduce air pollution. <http://www.health.state.ny.us/nysdoh/environ/ozone.htm>
- **Environmental Public Health Tracking (EPHT)–Asthma Demonstration Project:** The NYSDOH, with the NYS Department of Environmental Conservation, is conducting a demonstration project of the EPHT system to link and track environmental and health data. The demonstration project focuses on childhood asthma and criteria air pollutants, and includes a surveillance and research component.

#### ENVIRONMENTAL AND OCCUPATIONAL HEALTH

- **Healthy Neighborhoods Program:** The Healthy Neighborhoods program is an eight-county, in-home asthma, lead and safety assessment intervention program. Evaluation results from 1997 to 2000 demonstrate reduced hospitalizations and cost effectiveness. Interventions include: asthma trigger education; dust and pest control measures; installing pillow and mattress covers; mold remediation; and eliminating or restricting smoking from housing units. [http://www.health.state.ny.us/nysdoh/asthma/ny\\_action.htm](http://www.health.state.ny.us/nysdoh/asthma/ny_action.htm)
- **Occupational Lung Disease Toolkit:** A health care provider toolkit for improving the recognition and reporting of occupational lung diseases, including work-related asthma has been developed and distributed and is available on the department's web site. <http://www.health.state.ny.us/nysdoh/lung/toolkit/toolkit.htm>

## Asthma Surveillance in New York State

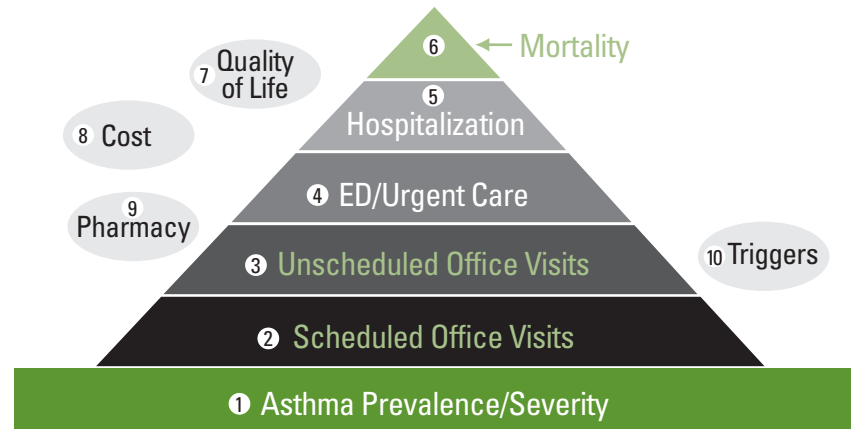
The Centers for Disease Control and Prevention (CDC) defines surveillance as “ongoing, systematic collection, analysis, and interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those re-

sponsible for prevention and control.” There are various existing and new databases that are being utilized to assess the burden of asthma in New York State.

The New York State Department of Health is striving to acquire information on all aspects of asthma as depicted in the surveillance pyramid.

**Figure 3-1**  
The Asthma Surveillance Pyramid

Source: Centers for Disease Control and Prevention. “A Public Health Response to Asthma” PHTN Satellite Broadcast, Course Materials 2001



① **Asthma Prevalence/Severity:** Asthma prevalence and severity are being assessed through the Behavioral Risk Factor Surveillance System (BRFSS), the Expanded BRFSS, National Asthma Survey-NYS, and program-based data including Medicaid Fee-for-Service, Medicaid managed care, NYS Occupational Health Clinics and the Occupational Disease Lung Registry.

②③ **Scheduled and Unscheduled Office Visits:** The Medicaid managed care Quality Assurance Reporting Requirements (QARR) consist of measures from the National Committee for Quality Assurance’s (NCQA) Health Plan Employer Data Information Set (HEDIS®) and NYS-specific measures. This version of QARR incorporates measures from HEDIS®. The major areas of performance included in 2003 QARR are: Effectiveness of Care, Access to/Availability of Care, Satisfaction with the Experience of Care, Health Plan Stability, Use of Services, and Health Plan Descriptive Information. The National Asthma Survey-NYS also has information on scheduled and unscheduled office visits.

④ **Emergency Department/Urgent Care:** New legislation requires hospitals to collect information on emergency room visits and to report this information to the NYSDOH beginning in 2005. This new reporting system will enhance our understanding of the impact of asthma. Medicaid Fee-for-Service data include emergency room visit information. The National Asthma Survey-NYS also has information on ED and urgent care visits.

⑤ **Hospitalizations:** Hospitalization data are available through the Statewide Planning and Research Cooperative System (SPARCS) database. Medicaid Fee-for-Service data include information about hospitalizations. The National Asthma Survey-NYS also has self-report information on hospitalizations.

⑥ **Mortality:** Information on asthma mortality is available through the Vital Statistics database.

⑦ **Quality of Life:** BRFSS is used to assess the quality of life of adults suffering from asthma. The National Asthma Survey-NYS also collects several measures for quality of life in both children and adults with asthma.

⑧ **Cost:** Hospitalization billing data is available through the SPARCS database. Medicaid Fee-for-Service has detailed cost information for ED visits, hospitalizations, office visit and pharmacy. Medicaid managed care has capitated and Fee-for-Service costs available.

⑨ **Pharmacy:** Medicaid Fee-for-Service has detailed information about pharmacy use and cost.

⑩ **Triggers:** The National Asthma Survey-NYS collects information on possible asthma triggers and allows for a comparison of households with asthma patients to a sub-sample of households without asthma.

# Healthy People 2010 Objectives

Sponsored by the U.S. Department of Health and Human Services, the *Healthy People 2010* initiative is a comprehensive set of disease prevention and health promotion objectives for the nation to achieve over the first decade of the new century. Created by scientists both inside and outside of government, it identifies a wide range of public health priorities and specific, measurable objectives. It can be used by many different people, states, communities, professional organizations, and others to help them develop programs to improve health.<sup>4</sup>

The *Healthy People 2010* objectives are national benchmarks. They are used widely at the national, state, and community level. In utilizing these objectives for asthma, New York can direct its efforts toward achieving national goals, compare its asthma burden to others, and measure progress over time in achieving the objectives.

## Asthma Hospitalizations

**Table 4-1**

Asthma Hospitalization Rate per 10,000 Residents Compared to Healthy People 2010 Objectives for Asthma, New York State (1994–2002) and United States (2001)

Age Group (Years)	New York				United States	Healthy People
	1994-1996	1996-1998	1998-2000	2000-2002	2001	2010
0-4	86.8	75.5	72.1	66.1	56.2	25.0
5-14	35.9	29.0	25.5	22.3	—	—
0-17	28.0	43.3	35.7	31.2	21.4	17.3
5-64	22.9	21.0	18.7	16.3	11.8	7.7
65+	26.4	25.3	25.8	24.8	21.4	11.0

Compared to the Nation, New York State asthma hospitalization rates are higher across all age groups. The 2000-

2002 figures show that New York is still roughly two times the Healthy People 2010 objectives for each age grouping.

## Asthma Mortality

**Table 4-2**

Asthma Mortality Rate per 1,000,000 Residents Compared to Healthy People 2010 Objectives for Asthma, New York State (1996–2002) and United States (2001)

Age Group (Years)	New York			United States	Healthy People
	1996-1998	1998-2000	2000-2002	2001	2010
0-4	3.6	1.3	3.8	2.1	1.0
5-14	4.0	3.8	5.2	2.4	1.0
0-17	6.8	6.9	6.1	4.7	2.0
5-64	28.2	23.2	22.2	14.7	9.0
65+	66.6	59.9	49.9	60.8	60.0

Compared to the Nation, New York State mortality rates, with cause of death as asthma, are lower for the 65 year and older age group. However, these rates are higher for all other age groups. Table 4-2 shows that

New York State meets the *Healthy People 2010* objectives for the 65+ age group. New York State mortality rates, however, are 2 to 5 times higher for all other age groups.

# Prevalence of Asthma and Risk Behaviors in New York State

## The Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is a statewide random-digit-dialing telephone survey of the non-institutionalized adult population aged 18 years and older. The BRFSS began in New York State in 1983 and has been conducted annually since 1985 following procedures established by the Centers for Disease Control and Prevention. Data are collected from a representative sample of about 5,000 adults each year, and then weighted to adjust for the selection probabilities and the estimates of age-sex-race distribution of adults in New York State for each calendar year. This survey provides state-specific information on behaviors and risk factors for chronic diseases, infectious diseases, and other health conditions for New York State adults.

The 1996 and 1997 NYS BRFSS questionnaires included one question for assessing the prevalence of **current asthma** among the adult population:

“Have you been told by a doctor that you currently have asthma?” In the 1998 BRFSS questionnaires, this question was not included.

The 1999 and 2000 NYS BRFSS questionnaires included two questions for assessing both **lifetime prevalence and current prevalence** of asthma:

“Did a doctor ever tell you that you have asthma?”

“{If Yes} “Do you still have asthma?”

In the 2001, 2002, 2003, 2004 and 2005 questionnaires, those two questions were modified:

“Have you ever been told by a doctor, nurse, or other health professional that you had asthma?”

“{If Yes} “Do you still have asthma?”

From responses to these questions prevalence estimates of lifetime and current asthma were determined for each survey year and tested for trends over time. The survey responses represent only self-report of diagnosed cases. Therefore, true prevalence may have been underestimated. Successive years of data were combined to permit the calculation of two-year averages and more stable estimates for subgroup comparisons. The 95% confidence intervals (CIs) were calculated to measure the precision of all prevalence estimates as well as to facilitate comparisons between subgroups.

## Highlights: Prevalence of Asthma and Risk Behaviors in New York State

### TRENDS IN PREVALENCE OF CURRENT ASTHMA

- In 2003, approximately 1.6 million adults (11.3% of the NYS population) were told by a health professional that they had asthma; about 1.1 million adults (7.6%) have current diagnosed asthma, which is similar to the national estimate of current asthma.
- There has been an overall upward trend in the prevalence of current asthma for NYS residents from 1996 through 2003.
- There was no significant difference in current asthma prevalence between New York City (7.6%) and the Rest of State (7.6%) in 2001–2002.

### PREVALENCE BY SOCIODEMOGRAPHIC CHARACTERISTICS

- Similar to national findings, the 2001–2002 prevalence of current asthma among NYS women (9.5%) was nearly twice the prevalence in men (5.5%).
- The 2001–2002 prevalence of current asthma varied by race/ethnicity with non-Hispanic black (8.7%), and Hispanic (8.3%) New Yorkers having higher prevalence compared to white non-Hispanic (7.2%) New Yorkers.
- Current asthma prevalence in 2001–2002 was inversely related to income.

### TREATMENT AND PREVENTION

- During 1999, more than 22% of adult asthmatic New Yorkers indicated they utilized an emergency room in the past year due to asthma.

### HEALTH RISK BEHAVIORS

- **Smoking**
  - In 2001–2002, the prevalence of current smoking behavior differed slightly between asthmatic (26%) and non-asthmatic (23%) New Yorkers.
- **Physical Activity**
  - In 2001–2002, 33.2% of adults with asthma reported no leisure time physical activity during the past month, compared to 26.4% of those without asthma.
- **Obesity**
  - In 2001–2002, 33.6% of asthmatics were considered obese compared to 19.4% for non-asthmatic New Yorkers.

### EXPANDED BRFSS

- Current asthma prevalence varies at a local level from 12.7% in Fulton/Montgomery Counties to 5.9% in Suffolk County.









## TREATMENT AND PREVENTION

The 1999 BRFSS Asthma Module included six questions that assessed treatment and prevention among respondents with current asthma (Table 5-

1). Two of these questions (emergency room visits, home cleaning advice) were also a part of the 1996 and 1997 modules.

**Table 5-1**

Treatment and Prevention Behaviors Among Adults with Current Asthma by Survey Years

Question	1996-1997		1999	
	%	95%CI	%	95%CI
Emergency room or urgent care clinic visit past 12 months because of asthma?	21.8	16.9-26.6	22.5	14.7-30.3
Asthma ever made worse by tobacco smoke?	—	—	60.1	51.2-68.9
Formulated with health provider an action plan for asthma attack?	—	—	70.0	62.4-77.7
Got advice from health professional on home cleaning to reduce asthma problems?	67.9	62.4-73.3	55.1	46.0-64.1
Currently take asthma medications?				
18-54 yr.	—	—	69.3	59.3-79.2
55+ yr.	—	—	82.6	71.3-93.9
All ages	—	—	74.0	66.4-81.6
[If take medication] Asthma medications taken daily?				
18-54 yr.	—	—	44.1	30.3-58.0
55+ yr.	—	—	80.1	67.8-93.3
All ages	—	—	58.4	48.1-68.6

In 1999, 22.5% of adult New Yorkers with current asthma reported that during the previous 12 months, they had at least one visit to an emergency room or urgent care clinic because of their asthma, essentially unchanged from 1996-1997 (21.8%). In 1999, 60.1% reported a history of having had their asthma made worse by tobacco smoke. Seventy percent indicated working with a doctor or other health care provider to formulate an action plan in case of an attack. Slightly more than half (55.1%) reported getting advice from a doctor, nurse, or other health professional about ways to clean or modify their homes to reduce asthma problems. This percent-

age was substantially less than that estimated from the 1996-1997 survey data (67.9%). Nearly three-fourths (74.0%) reported that they currently took medications for their asthma. However, this behavior varied by age, as 69.3% of those aged 18 to 54 years were on medications, compared to 82.6% of those aged 55 years and older. Among people taking medications, 58.4% reported taking these medications daily, regardless of whether or not they were having trouble breathing. This practice also differed by age. Among those aged 18 to 54 years, only 44.1% took the medication every day, compared to 80.1% among those aged 55 years and older.





## Expanded BRFSS

The Expanded BRFSS (EBRFSS) project was conducted in New York from July 2002 through July 2003 for 38 localities including individual counties and county groupings. EBRFSS followed the random-digit-dialing protocol of the BRFSS, collecting information on behavioral risk factors and utilization of preventive care services that would be representative of the adult population for each locality. The target sample size for each locality was 640 completed interviews.

A common set of core questions and modules was chosen to be part of the questionnaire for all 38 localities. The two questions utilized by the BRFSS to quantify “lifetime” and “current” asthma were part of the EBRFSS core questionnaire. Tables 5-2 through 5-5 and Figure 5-11 summarize the EBRFSS findings for “lifetime” and “current” asthma by sociodemographic groups and by locality.

**Table 5–2**

Prevalence of Lifetime Asthma by Demographic Groups, New York State Expanded BRFSS, 2003

<sup>1</sup>Weighted Percent

<sup>2</sup>95% Confidence Interval

Demographic Groups	Yes		No		C.I. <sup>2</sup>	
	n	% <sup>1</sup>	n	%		
Total	2,980	11.5	21,191	88.5	0.7	
Gender	Male	882	9.4	8,597	90.6	1.1
	Female	2,098	13.4	12,594	86.6	0.9
Age	18–24	306	15.1	1,323	84.9	2.6
	25–34	503	13.5	3,141	86.5	1.8
	35–44	600	10.1	4,521	89.9	1.4
	45–54	581	11.5	4,176	88.5	1.6
	55–64	464	11.9	3,053	88.1	1.9
	≥65	491	8.6	4,670	91.4	1.4
Race/ Ethnicity	White	2,365	11.0	17,517	89.0	0.7
	Black	214	14.5	1,112	85.5	2.7
	Hispanic	211	11.9	1,205	88.1	2.1
	Other	144	9.5	1,069	90.5	3.0
Education	<High School	387	13.6	1,996	86.4	2.5
	High School	926	10.8	6,793	89.2	1.2
	>High School	1,663	11.6	12,316	88.4	0.9
Household Income	<\$10,000	274	19.5	1,000	80.5	4.1
	\$10,000–\$24,999	741	12.4	4,516	87.6	1.7
	\$25,000–\$49,999	764	11.6	5,915	88.4	1.5
	≥\$50,000	829	10.3	6,948	89.7	1.1

Table 5-2 describes the prevalence of lifetime asthma by demographic groups. Statewide, 11.5% of New York residents have lifetime asthma. Females have a higher prevalence rate (13.4%) compared to males (9.4%). The 18 to 24 year age group had the highest prevalence rate (15.1%) followed by 25 to 34 year olds at 13.5%. Blacks (14.5%)

and Hispanics (11.9%) have a higher prevalence rate compared to Whites (11.0%) or Other (9.5%). When looking at educational attainment, residents with less than a high school education had the highest lifetime prevalence rate of 13.6%. For income, we see that the prevalence rates for lifetime asthma are inversely proportional to income.

Table 5-3 describes the prevalence of lifetime asthma by locality.

**Table 5-3**  
Prevalence of Lifetime Asthma by Locality, New York State Expanded BRFSS, 2003

<sup>1</sup>Weighted Percent  
<sup>2</sup>95% Confidence Interval

Locality	Yes		No		C.I. <sup>2</sup>
	n	% <sup>1</sup>	n	%	
Albany	91	14.6	552	85.4	3.4
Allegany, Wyoming	71	10.6	565	89.4	2.7
Broome	60	8.9	581	91.1	2.5
Cattaraugus, Chautauqua	67	10.1	567	89.9	2.6
Cayuga, Seneca, Wayne	73	10.9	573	89.1	2.8
Chemung, Schuyler, Tioga	79	12.9	556	87.1	3.0
Chenango, Madison	90	14.4	574	85.6	3.3
Clinton, Essex, Franklin	83	11.3	566	88.7	2.7
Columbia, Greene	83	12.0	552	88.0	2.7
Cortland, Tompkins	88	13.9	551	86.1	3.2
Delaware, Otsego, Schoharie	78	12.9	555	87.1	3.2
Dutchess, Putnam	78	13.2	549	86.8	3.0
Erie	67	10.2	564	89.8	2.6
Fulton, Montgomery	97	16.2	533	83.8	3.5
Genesee, Ontario	87	13.7	550	86.3	3.0
Hamilton, Herkimer	69	10.7	549	89.3	2.9
Jefferson, Lewis, St. Lawrence	75	13.0	568	87.0	3.4
Livingston, Ontario	81	11.9	556	88.1	2.8
Monroe	77	12.1	547	87.9	2.9
Nassau	58	9.3	560	90.7	2.7
Niagara	82	12.3	551	87.7	2.8
Oneida, Oswego	75	12.0	576	88.0	3.0
Onondaga	82	11.6	563	88.4	2.7
Orange	86	13.5	552	86.5	3.2
Rensselaer	86	13.1	553	86.9	2.9
Rockland	61	8.3	572	91.7	2.2
Saratoga	86	12.2	558	87.8	2.9
Schenectady	89	14.7	545	85.3	3.3
Steuben, Yates	77	10.6	576	89.4	2.6
Suffolk	71	9.7	571	90.3	2.5
Sullivan, Ulster	85	14.0	557	86.0	3.3
Warren, Washington	95	15.4	553	84.6	3.3
Westchester	65	10.5	554	89.5	2.8
Bronx	93	14.0	539	86.0	3.2
Kings (Brooklyn)	81	11.4	561	88.6	2.7
New York (Manhattan)	77	12.7	539	87.3	3.1
Queens	69	11.0	545	89.0	2.9
Richmond (Staten Island)	68	10.5	558	89.5	2.8

Of the 38 localities, for lifetime asthma, Fulton and Montgomery Counties ranked the highest (16.2%) and Rockland County ranked the lowest (8.3%).

Table 5-4 describes the prevalence of current asthma by demographic groups.

**Table 5-4**  
Prevalence of Current Asthma by Demographic Groups, New York State Expanded BRFSS, 2003

<sup>1</sup>Weighted Percent  
<sup>2</sup>95% Confidence Interval

Demographic Groups	Yes		No		C.I. <sup>2</sup>	
	n	% <sup>1</sup>	n	%		
Total	2,149	7.9	21,956	92.1	0.6	
Gender	Male	553	5.6	8,903	94.4	0.9
	Female	1,596	10.0	13,053	90.0	0.8
Age	18–24	194	9.6	1,426	90.4	2.2
	25–34	331	8.3	3,302	91.7	1.5
	35–44	440	7.4	4,673	92.6	1.3
	45–54	438	8.2	4,309	91.8	1.3
	55–64	349	9.2	3,157	90.8	1.8
	≥65	374	6.0	4,770	94.0	1.2
Race/ Ethnicity	White	1,710	7.4	18,119	92.6	0.6
	Black	154	10.1	1,169	89.9	2.3
	Hispanic	147	8.1	1,263	91.9	1.7
	Other	104	6.5	1,106	93.5	2.7
Education	<High School	316	10.7	2,056	89.3	2.2
	High School	702	7.9	6,998	92.1	1.0
	>High School	1,127	7.5	12,816	92.5	0.8
Household Income	<\$10,000	227	16.4	1,043	83.6	3.9
	\$10,000–\$24,999	573	9.1	4,670	90.9	1.4
	\$25,000–\$49,999	551	8.0	6,112	92.0	1.2
	≥\$50,000	539	6.2	7,223	93.8	0.8

In 2003, statewide, 7.9% of New York residents had current asthma. Females had a higher prevalence rate (10.0%) compared to males (5.6%). The 18 to 24 year age group had the highest current asthma prevalence rate (9.6%). Blacks (10.1%) and Hispanics (8.1%) had a higher current asthma prevalence rate compared to

whites (7.4%) or other (6.5%). When looking at educational attainment, residents with less than a high school education had a current asthma prevalence rate of 10.7% compared to 7.5% for residents with greater than high school education. For income, prevalence rates for current asthma were inversely proportional to income.

Table 5-5 and Figure 5-11 describe the prevalence of current asthma by locality.

**Table 5-5**  
Prevalence of Current Asthma by  
Locality, New York State Expanded  
BRFSS, 2003

<sup>1</sup>Weighted Percent

<sup>2</sup>95% Confidence Interval

Locality	Yes		No		C.I. <sup>2</sup>
	n	% <sup>1</sup>	n	%	
Albany	60	9.8	580	90.2	2.9
Allegany, Wyoming	50	7.1	583	92.9	2.3
Broome	43	6.5	597	93.5	2.2
Cattaraugus, Chautauqua	52	7.7	581	92.3	2.3
Cayuga, Seneca, Wayne	55	7.9	589	92.1	2.4
Chemung, Schuyler, Tioga	58	9.2	577	90.8	2.5
Chenango, Madison	70	10.4	594	89.6	2.7
Clinton, Essex, Franklin	59	7.4	588	92.6	2.1
Columbia, Greene	64	9.1	569	90.9	2.4
Cortland, Tompkins	59	8.6	575	91.4	2.5
Delaware, Otsego, Schoharie	63	10.4	569	89.6	2.9
Dutchess, Putnam	57	9.3	570	90.7	2.5
Erie	47	7.0	583	93.0	2.1
Fulton, Montgomery	75	12.7	551	87.3	3.2
Genesee, Ontario	62	9.6	574	90.4	2.6
Hamilton, Herkimer	47	6.8	569	93.2	2.2
Jefferson, Lewis, St. Lawrence	61	11.2	580	88.8	3.2
Livingston, Ontario	56	8.1	579	91.9	2.3
Monroe	59	9.2	562	90.8	2.5
Nassau	40	6.3	578	93.7	2.3
Niagara	61	9.4	567	90.6	2.6
Oneida, Oswego	55	8.1	594	91.9	2.4
Onondaga	61	8.8	582	91.2	2.4
Orange	60	9.0	577	91.0	2.6
Rensselaer	66	10.0	572	90.0	2.6
Rockland	43	6.1	588	93.9	2.0
Saratoga	58	7.8	584	92.2	2.4
Schenectady	61	9.5	570	90.5	2.6
Steuben, Yates	58	7.6	591	92.4	2.1
Suffolk	46	5.9	596	94.1	1.9
Sullivan, Ulster	55	8.6	585	91.4	2.7
Warren, Washington	70	10.8	578	89.2	2.7
Westchester	46	7.5	572	92.5	2.4
Bronx	70	10.9	562	89.1	2.9
Kings (Brooklyn)	59	7.9	582	92.1	2.2
New York (Manhattan)	50	8.0	564	92.0	2.6
Queens	43	6.7	569	93.3	2.4
Richmond (Staten Island)	50	6.9	575	93.1	2.1



## Hospitalizations for Asthma

Asthma hospitalization information has been generated from the SPARCS database. An asthma hospitalization is defined as having a principal diagnosis with an International Classification Disease 9th Revision (ICD-9CM) code of 493.

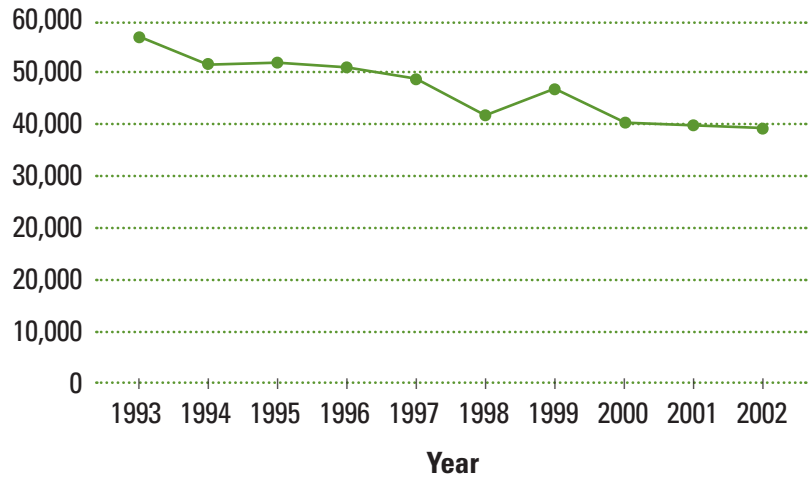
## Highlights: Hospitalizations for Asthma

- The number of hospitalizations due to asthma in New York State has gone down approximately 30% in the last decade from 56,600 in 1993 to 39,000 in 2002.
- Asthma hospitalization rates also showed a 34% decline from a high of 30.9 in 1993 to 20.4 per 10,000 in 2002.
- For the years 2000–2002, the 0-14 year age group had the highest asthma hospitalization rate of 36.0/10,000, followed by the 65+ year and older age group with a rate of 24.7/10,000.
- During 2000–2002, female New Yorkers had higher crude and age-adjusted asthma hospitalization rates (23.2/10,000; 23.1) compared to males (17.6/10,000; 17.9).
- For the period 2000–2002, black New Yorkers had higher crude and age adjusted asthma hospitalization rates (46.1/10,000; 46.4) compared to white New Yorkers (12.1/10,000; 12.1).
- New York City residents had higher crude and adjusted asthma hospitalization rates (33.0/10,000; 33.9) in 2000-2002 compared to residents of the Rest of State (11.4/10,000; 11.5).
- For 2000–2002 asthma hospitalizations in New York State: 35.6% were for children 0-14 years of age, 15.5% were for adults 65 years of age and older; 58.5% were for females; and 67.4% were for New York City residents.
- Males had a higher percentage of asthma hospitalizations compared to females in the 0-4 and 5-14 age groups. However, males had lower percentages for all remaining age groups.
- When reviewing payment source for asthma hospitalizations in 2000–2002: 42.5% were by Medicaid; 31.2% by private insurance; 17.2% by Medicare; and 9.6% were self-pay.
- When reviewed by date of admission, asthma hospitalizations show a seasonal pattern with peaks in the fall and troughs in the summer.
- Asthma hospitalization rates for 2000–2002 vary across New York State with New York City residents of the Bronx having a rate of 59.8/10,000, while Tioga residents have a rate of 2.9/10,000.

## Trends in Asthma Hospitalizations

Analysis of asthma hospitalizations for years 1993-2002 was conducted to examine trends in hospitalizations by age, gender, geographic region and source of payment.

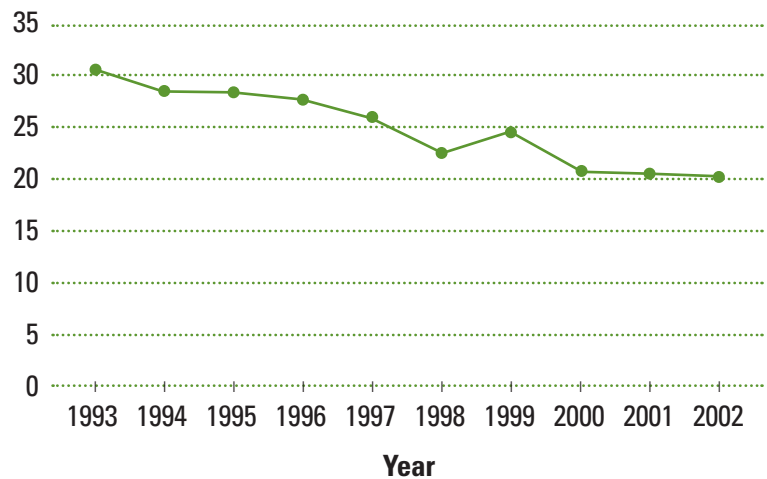
**Figure 6-1**  
Annual Asthma Hospitalizations  
for New York State Residents,  
1993-2002



Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Hospitalizations	56,601	50,729	50,921	50,665	48,234	42,392	46,320	39,661	39,205	39,192

From 1993 to 2002, the number of annual asthma hospitalizations among New York State residents decreased approximately 30% in the last decade from 56,601 to 39,192 (Figure 6-1).

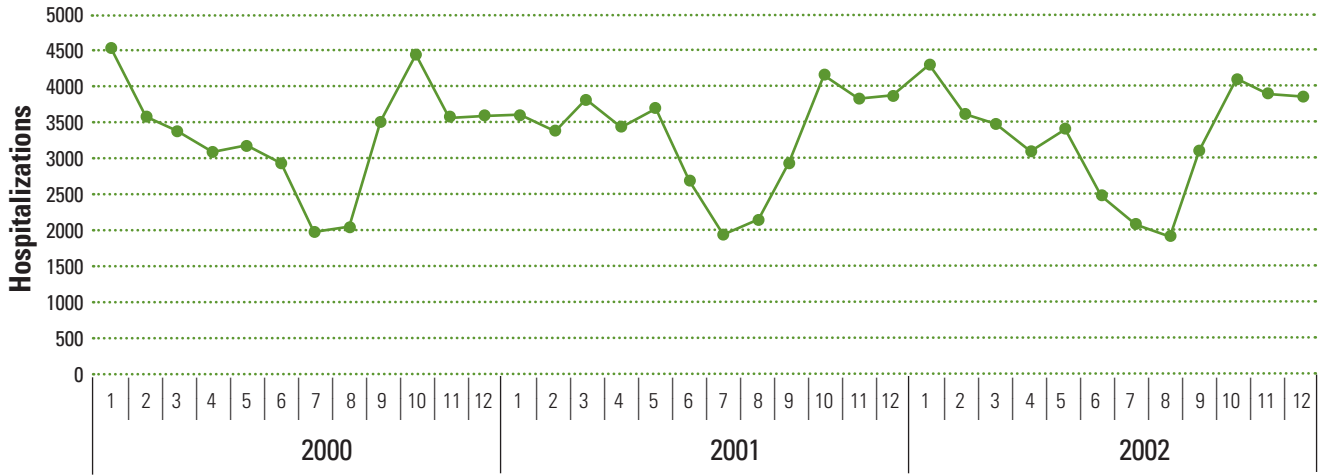
**Figure 6-2**  
Annual Asthma Hospitalization  
Rate per 10,000 Residents,  
New York State, 1993-2002



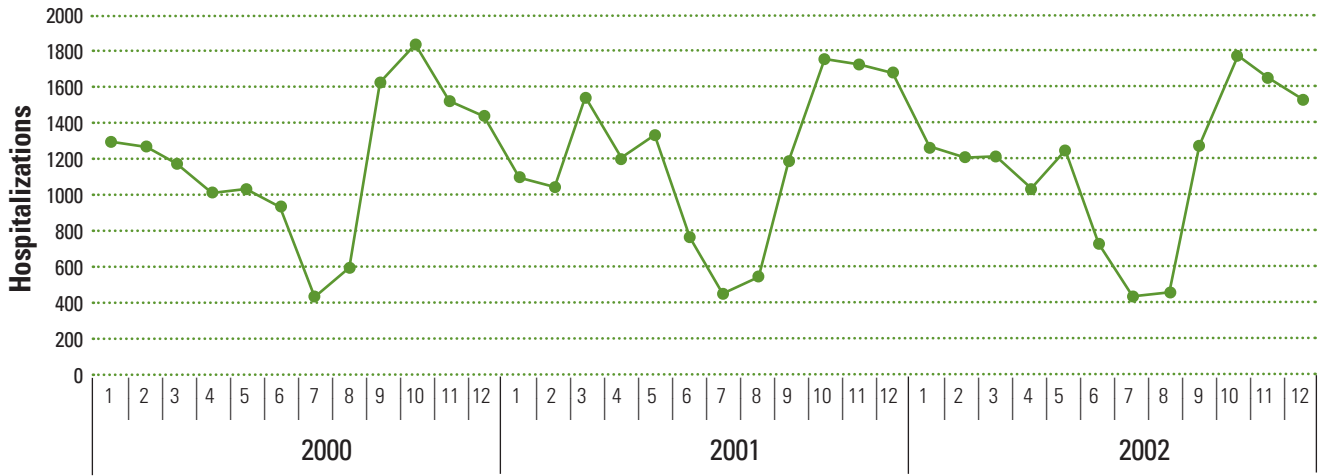
Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rate	30.9	27.9	27.8	27.5	26.2	22.7	24.7	21.0	20.4	20.4

The annual asthma hospitalization rate in New York State went down 34% from 30.9 hospitalizations per 10,000 residents in 1993 to 20.4 hospitalizations per 10,000 residents in 2002 (Figure 6-2).

**Figure 6-3**  
 Asthma Hospitalizations for  
 New York State Residents  
 by Month, 2000-2002



**Figure 6-4**  
 Asthma Hospitalizations for  
 New York State Residents,  
 Ages 0-14 by Month, 2000-2002



When reviewed by date of admission, asthma hospitalizations show a seasonal pattern with peaks in the fall and troughs in the summer (Figure 6-3 and Figure 6-4).







































































































