

# BROOKLYN COMMUNITY HEALTH



## REPORT ON **CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

## LETTER FROM THE PRESIDENT

Dear residents and friends of Brooklyn,

This *Brooklyn Community Health Report on Chronic Obstructive Pulmonary Disease*—also known as COPD—examines the burden of illness and death in our community from emphysema and chronic bronchitis, two major types of the disease. The aim is to promote greater awareness of the need for prevention, detection, and treatment to help those with COPD better manage their health.

**Roughly 13 million Americans have been diagnosed with COPD, and as many more don't know they have it.**

Roughly 13 million Americans have been diagnosed with COPD, and as many more don't know they have it. Symptoms develop slowly and worsen over time, which is why it may not be detected until later in life. For residents of Brooklyn—a borough with a relatively young population—the prevalence of COPD is not as high as the nation's, but it is still a major cause of sickness and death.

A recent study by the Centers for Disease Control and Prevention found that COPD is most often diagnosed in elderly Whites and disproportionately affects the poor and ethnic minorities. This is evident in Brooklyn, where elderly Black and Hispanic residents have higher rates of hospitalization for COPD than other racial and ethnic groups. While the overall death rate for COPD is lower in Brooklyn than for New York City, our borough has a greater percentage of Black residents who die from the disease.

This *Health Report* compares data for Brooklyn neighborhoods, showing the change in the rate of COPD hospitalizations over a 10-year period. As can be seen from the data, hospitalizations for chronic bronchitis increased dramatically from 1995 to 2005.

Five Brooklyn neighborhoods had higher hospitalization rates for chronic bronchitis than the city and borough as a whole. Better methods of detection and diagnosis, as well as other contributing factors, may account for the rising number of hospitalizations reported as chronic bronchitis. On a more positive note, emphysema rates have decreased dramatically, thanks to the decline in smoking.

While a cure is not yet in sight, research has led to more effective treatments for COPD. With the right care, people with COPD can better manage their symptoms and avoid frequent hospitalizations. Let's step up our efforts to educate both young and old about the dangers of smoking and the need to get vaccinated for flu and pneumonia. By lowering the risks for COPD and its complications, we can greatly reduce the burden of illness in our community.

**John C. LaRosa, MD**

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## OVERVIEW: WHAT IS COPD?

Chronic obstructive pulmonary disease (COPD) is the term for a group of diseases that affect the lungs. It is a leading cause of death in Brooklyn and throughout the nation.

COPD develops slowly and worsens over time. The airways and air sacs in the lungs lose their elasticity and become inflamed. This causes them to produce more mucus and become clogged, preventing the normal flow of air in and out of the lungs.

COPD is most often diagnosed in older people. Because it makes breathing difficult, even mild forms of COPD can interfere with the tasks of daily life. A person with severe COPD may even have difficulty walking or preparing food.

### MAJOR DISEASES OF COPD

Emphysema and chronic bronchitis are the two main forms of COPD. Although each of these diseases affects a different part of the respiratory system, a person with COPD can have both emphysema and chronic bronchitis at the same time.

**EMPHYSEMA** – the result of long-term inflammation (swelling) and damage to the alveoli (tiny air sacs) in the lungs, making it difficult to exhale. Ninety percent of all emphysema is the result of smoking.

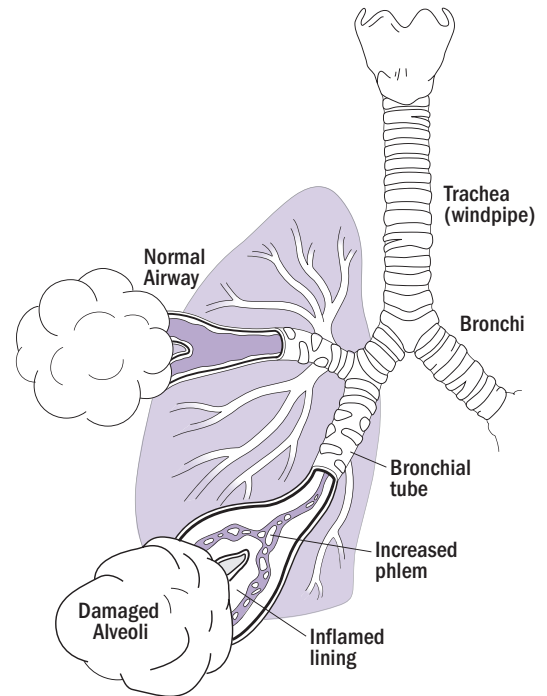
**CHRONIC BRONCHITIS** – the result of long-term inflammation and infection in the bronchial tubes (airways) of the lungs. It produces a constant phlegmy cough. Most people with chronic bronchitis are current or past smokers.

**OTHER COPD DISEASES** – Conditions such as bronchiectasis, extrinsic allergic alveolitis, and chronic airway obstruction also contribute to COPD but are not as common as emphysema and chronic bronchitis. See the Glossary for descriptions of these conditions.

### WHO IS AT RISK FOR GETTING COPD?

People most at risk for getting COPD are those who:

- Are current or former smokers or have long-term exposure to second-hand smoke;
- Have occupations that put them in long-term contact with harmful chemicals, dust, fumes, and other pollutants;
- Live in areas or buildings with high levels of air pollution, chemical fumes, asbestos, and other harmful dust particles; or
- Have a genetic condition known as alpha-1 antitrypsin deficiency; about 1 out of 5,000-7,000 people have this inherited defect.



### HOW IS COPD DIFFERENT FROM ASTHMA?

Asthma and COPD have similar symptoms but are treated differently. Asthma can be reversed with medical treatment; COPD can be managed but not cured. For some people with asthma, treatment may not help. These people are diagnosed as having COPD.

## IF YOU HAVE COPD

Chronic cough, excess mucus, and shortness of breath are three common signs of COPD, but they can also be symptoms of other conditions. It is important to get an accurate diagnosis to receive the right treatment. Even though COPD cannot be cured, medications are available to slow its progression and help control symptoms.

### SEEK PROFESSIONAL HELP

COPD can be diagnosed by testing how well the lungs are working. A device called a spirometer is used to measure the amount of air a person is able to inhale and exhale in a short period of time. Other tests, such as X-rays, CT scans, and blood tests, may be performed to rule out other diseases or conditions that have symptoms similar to COPD.

After making a diagnosis, a physician will prescribe a variety of medications and other treatments to control the symptoms of COPD and prevent a sudden worsening of the disease, which may require hospitalization.

See the Glossary for definitions and more information on treatments for COPD.

### STOP SMOKING

Ninety percent of people who have emphysema and most people with chronic bronchitis are current or past smokers. If you are a smoker, ask your health provider for advice on how to quit. There are many smoking cessation programs that can help you break the habit.

### GET VACCINATED AGAINST PNEUMONIA AND INFLUENZA

Pneumonia and the flu can lead to severe complications if you have COPD.

### EAT A HEALTHY DIET AND TAKE DAILY MULTIVITAMINS

People with severe COPD run the risk of becoming malnourished. Shortness of breath, tiredness, and other problems can make it difficult to perform simple tasks, such as preparing meals.

#### WHAT YOU SHOULD BE CAREFUL OF

**Smoking** — Second-hand smoke can irritate the lungs, worsen COPD symptoms, and speed up the progression of the disease.

**Antibiotics** — Use only as prescribed by a doctor. Improper use can be harmful and reduce their effectiveness.

**Cough Medicines** — Although they help get rid of sputum that builds up in the air passages of the lungs, long-term use should be monitored by a doctor or other healthcare professional.

## KEY FINDINGS

### ALL CHRONIC OBSTRUCTIVE PULMONARY DISEASES

- The percentage of COPD deaths in Brooklyn and the rest of New York City is lower than in the rest of the United States.
- Brooklyn had a higher percentage decline in the number of COPD deaths from 1993 to 2007 than the rest of the city: 16 percent versus 8 percent.
- In 2007, people over the age of 65 accounted for more than three-quarters of all COPD deaths in Brooklyn. The borough had a greater percentage of Black residents die of COPD compared to the rest of the city.

### EMPHYSEMA

- From 1993 to 2007, deaths due to emphysema in Brooklyn declined by nearly 150 percent; the rest of the city saw only a 70 percent decline during this period.
- In 2007, the majority of deaths from emphysema in Brooklyn were among White residents and those over 65.
- The number of hospitalizations due to emphysema in Brooklyn declined over 230 percent from 1995 to 2005, compared to a 165 percent decline for the rest of the city during this period.
- Emphysema hospitalizations for White Brooklyn residents fell from 66 percent in 1995 to 43 percent in 2005.
- The percent of emphysema hospitalizations for Black residents rose from 18 to 38 percent during the same period.

### CHRONIC BRONCHITIS

- Over two-thirds of hospitalizations for chronic bronchitis occur in persons over 65.
- Hospitalizations for chronic bronchitis in Brooklyn increased by 42 percent from 1995 to 2005.
- In 1995, chronic bronchitis accounted for just over 50 percent of all COPD hospitalizations Brooklyn; by 2005, it had increased to 90 percent.

### WHY ARE HOSPITALIZATIONS INCREASING FOR CHRONIC BRONCHITIS AND DECLINING FOR EMPHYSEMA?

The rise in chronic bronchitis hospitalizations may be due to an increase in complications associated with pneumonia, influenza, smoking, and asthma. Better methods of diagnosis and reporting may also account for the greater number of hospitalizations listed as chronic bronchitis. (See “Clinical Diagnosis of Chronic Coughing,” page 21.) Since chronic bronchitis often clears up, only to return again, it may be that people with frequent hospitalizations are not getting the primary care they need.

The decline in emphysema hospitalizations may be the result of better medical case management, the availability of home care, better self-management, and more effective community education and outreach.

### IMPACT OF SEPTEMBER 11

The release of large amounts of dust, chemicals, and other toxins from the destruction of the World Trade Center in 2001 may have harmful, long-term effects on the respiratory health of first responders, residents who lived in the surrounding communities, and people who worked in the area. COPD may develop from exposure to these environmental hazards, but because it can take a long time for symptoms to appear, it may be years before the full effects of 9/11 are known.

Ongoing monitoring and research on the development of COPD following exposure to these pollutants may provide valuable information on the natural history of the disease and its treatment.

# COPD

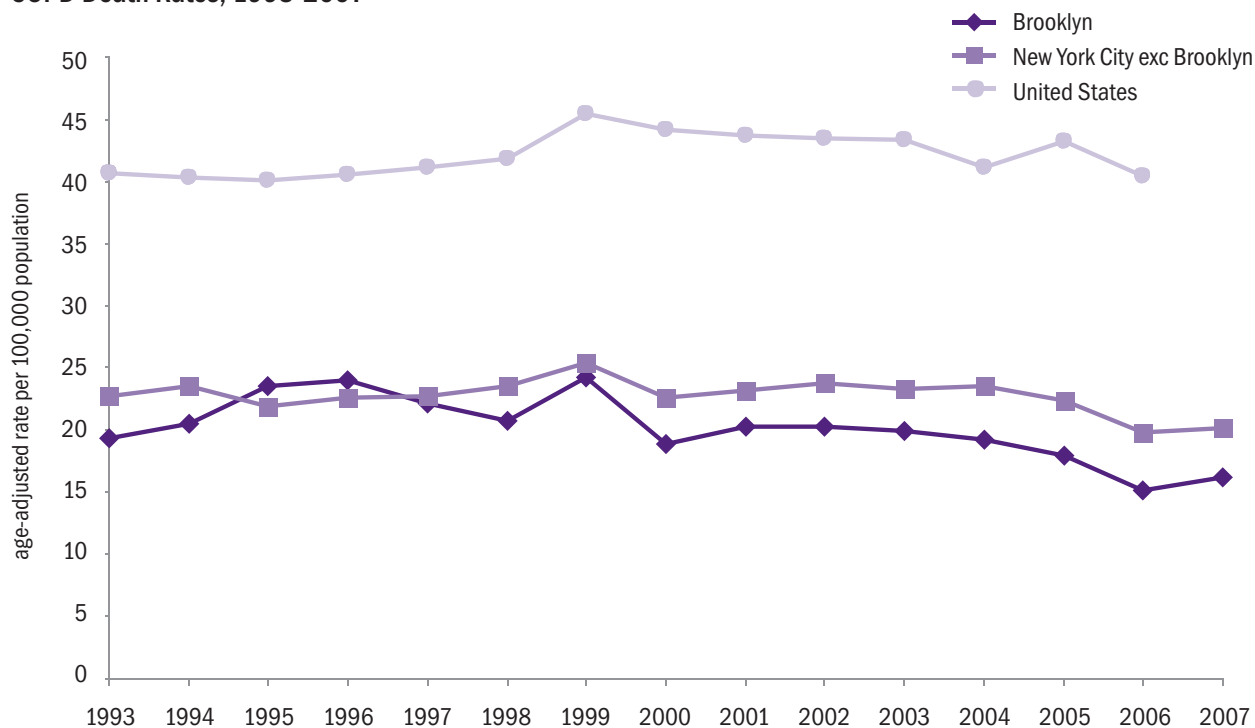
COPD is one of the ten leading causes of death in Brooklyn, the rest of New York City, and the United States. However, the burden of death for COPD is lower for Brooklyn and the rest of the city than for the nation. This may be because a greater proportion of the population of the United States is over the age of 50—the age group most at risk for COPD—compared to Brooklyn and New York City.

## Ten Leading Causes of Death, 2007

BROOKLYN		NEW YORK CITY EXCLUDING BROOKLYN		UNITED STATES	
	%		%		%
Diseases of the Heart	44.6	Diseases of the Heart	37.6	Diseases of the Heart	25.4
Cancer	22.2	Cancer	25.4	Cancer	23.1
Influenza and Pneumonia	3.7	Influenza and Pneumonia	4.3	Stroke	5.5
Diabetes Mellitus	3.0	Stroke	3.0	<b>COPD</b>	<b>5.3</b>
Stroke	2.6	Diabetes Mellitus	2.8	Accidents Except Drug Poisoning	4.8
<b>COPD</b>	<b>2.3</b>	<b>COPD</b>	<b>2.8</b>	Alzheimer's Disease	3.1
Human Immunodeficiency Virus	2.1	Human Immunodeficiency Virus	2.0	Diabetes Mellitus	2.9
Accidents Except Drug Poisoning	1.9	Accidents Except Drug Poisoning	1.9	Influenza and Pneumonia	2.2
Substance Abuse	1.4	Substance Abuse	1.7	Kidney Disease	1.9
Essential Hypertension & Renal Disease	1.4	Essential Hypertension & Renal Disease	1.5	Septicemia	1.4
All Other Causes	14.8	All Other Causes	16.9	All Other Causes	24.3
Total Deaths	15,771	Total Deaths	38,302	Total Deaths	2,424,059

Source: Epiquery: Vital Statistics Mortality Data Sets, NYC DOHMH, 2009; Health, United States 2008, NCHS, 2009

## COPD Death Rates, 1993-2007

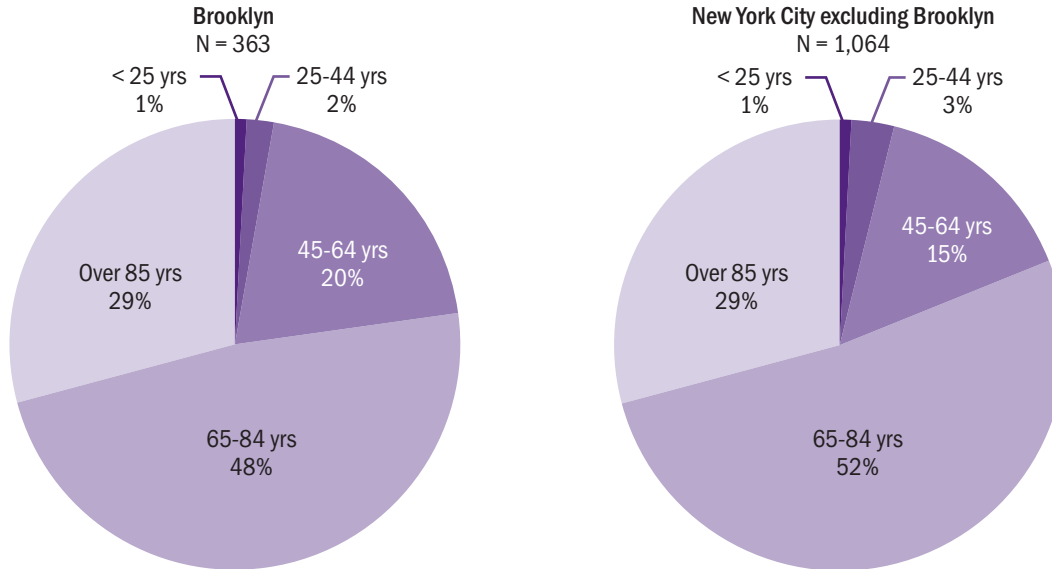


Source: NYCDHMH, 2010

# COPD DEATHS

In 2007, the percentage of COPD deaths for persons over 85 was the same for Brooklyn and the rest of New York City. Brooklyn had a slightly higher percentage of deaths reported for people between the ages of 45 to 64, and a lower percentage for those 65 to 84 years old, compared to the rest of the city. However, age-specific death rates for COPD for persons over 65 were lower in Brooklyn than in the rest of the city (see Appendix Table A).

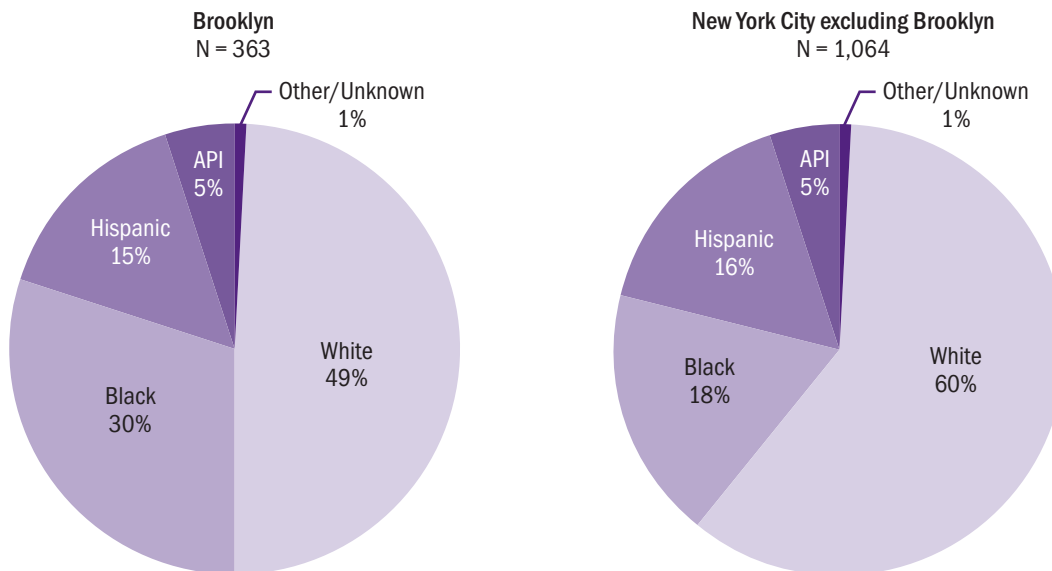
## Percent of COPD Deaths by Age, 2007



Source: Epiquery: *Vital Statistics Mortality Data Sets*, NYCDOHMH, 2010

Whites had a greater percentage of COPD deaths, both in Brooklyn and the rest of the city. However, Brooklyn's Black residents comprised a larger percentage of COPD deaths than Blacks living in the rest of the city.

## Percent of COPD Deaths by Race/Ethnicity, 2007



Source: Epiquery: *Vital Statistics Mortality Data Sets*, NYCDOHMH, 2010



# COPD HOSPITALIZATIONS

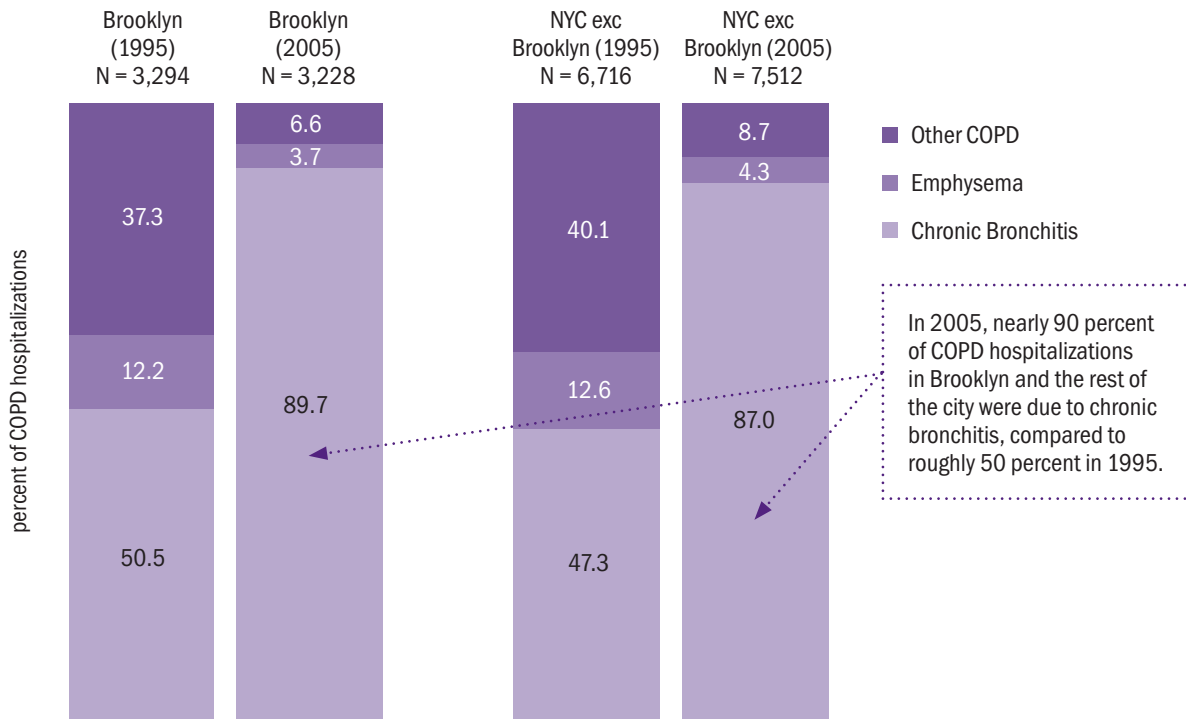
The number of hospitalizations for COPD fell 2 percent in Brooklyn from 1995 to 2005, compared to an 11 percent increase for the rest of the city. The percent of hospitalizations due to emphysema and other COPD-related conditions in both Brooklyn and the rest of the city fell considerably from 1995 to 2005, most likely due to the decline in smoking. By 2005, chronic bronchitis made up the bulk of COPD hospitalizations.

The increase in chronic bronchitis, despite the decline in smoking, may be due to such factors as:

- Worsening environmental pollution;
- Failure to seek treatment in the early stages of illness; and
- Complications from asthma, pneumonia, and influenza.

Improved methods of detection and diagnosis also may account for the greater number of hospitalizations reported as chronic bronchitis.

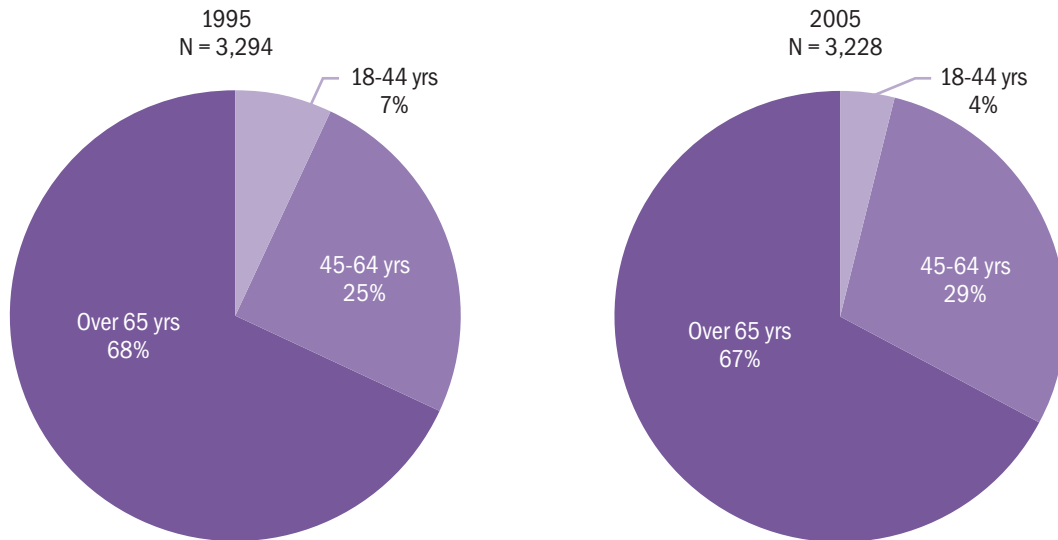
## Percent of Hospitalizations by Type of COPD, 1995 and 2005



Source: HANYS, SPARCS, 2008

Persons over the age of 65 account for two out of three COPD hospitalizations in Brooklyn and the rest of New York City (see Appendix Table C). There was little change from 1995 to 2005.

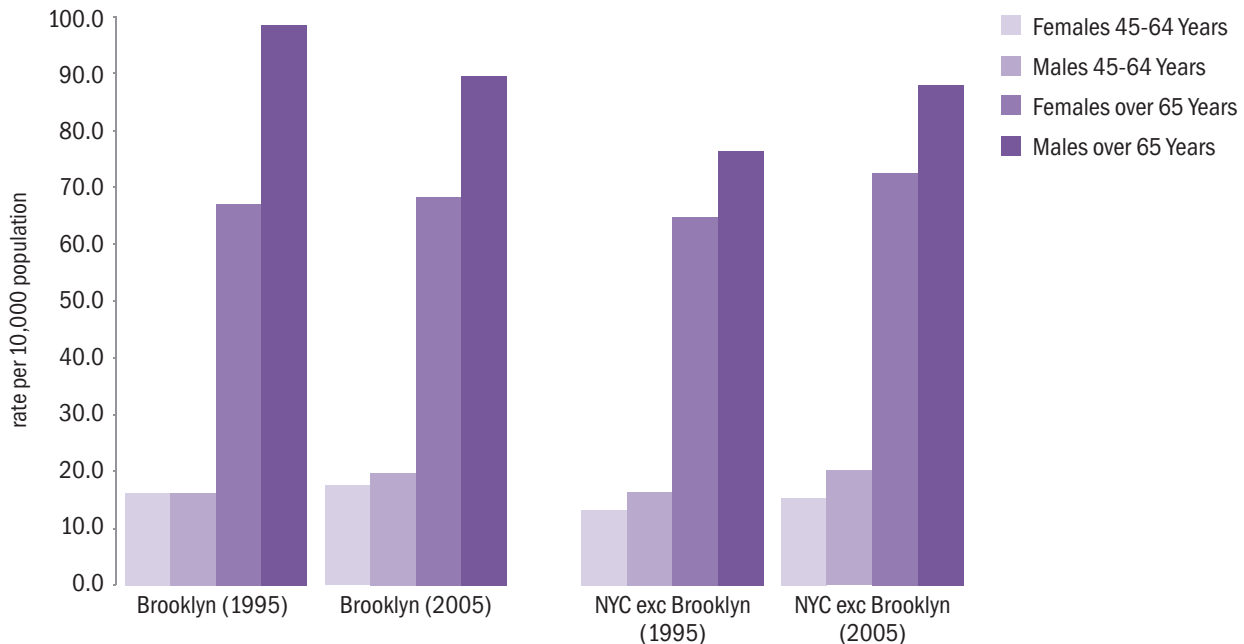
**Percent of COPD Hospitalizations in Brooklyn by Age, 1995 and 2005**



Note: Hospitalizations shown are for persons 18 years and older. Asthma hospitalizations were excluded from analysis.  
Source: HANYS, SPARCS, 2008

Hospitalization rates for COPD tend to be higher in persons over 65, both in Brooklyn and the rest of the city. In 1995, men living in Brooklyn had higher hospitalization rates than those in the rest of the city. However, this difference disappeared by 2005. Women had lower hospitalization rates than men. From 1995 to 2005 in Brooklyn, there was a slight rise in the COPD hospitalization rate for women, both in the younger and older age groups, while there was a decline for men.

**COPD Hospitalization Rates by Age and Sex, 1995 and 2005**

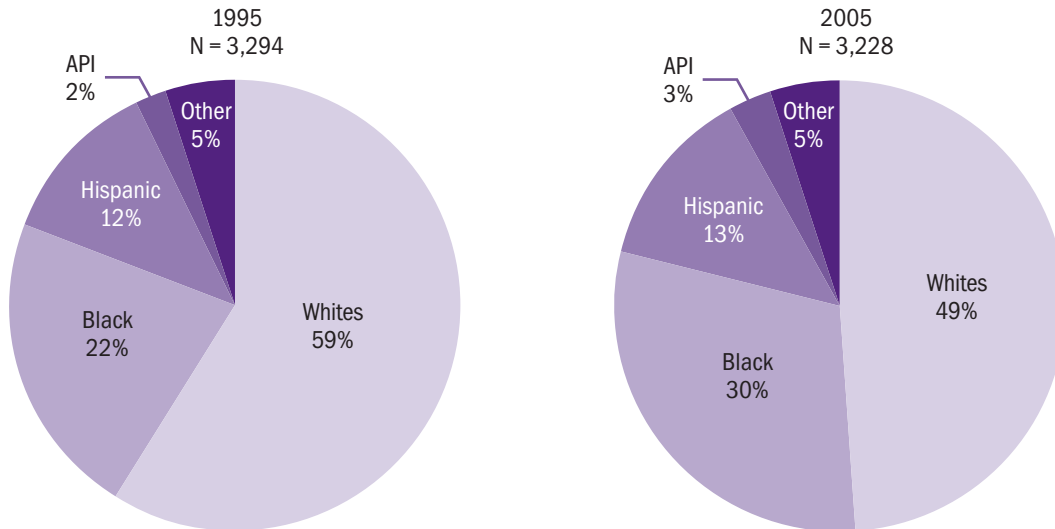


Note: Asthma hospitalizations were excluded from analysis.  
Source: HANYS, SPARCS, 2008

## COPD HOSPITALIZATIONS

The percentage of COPD hospitalizations for White Brooklynites declined from almost 60 percent in 1995 to around 50 percent in 2005. A similar trend occurred for White residents in the rest of the city during this period (see Appendix Table D). The percentage of Black Brooklyn residents hospitalized for COPD increased from 1995 to 2005.

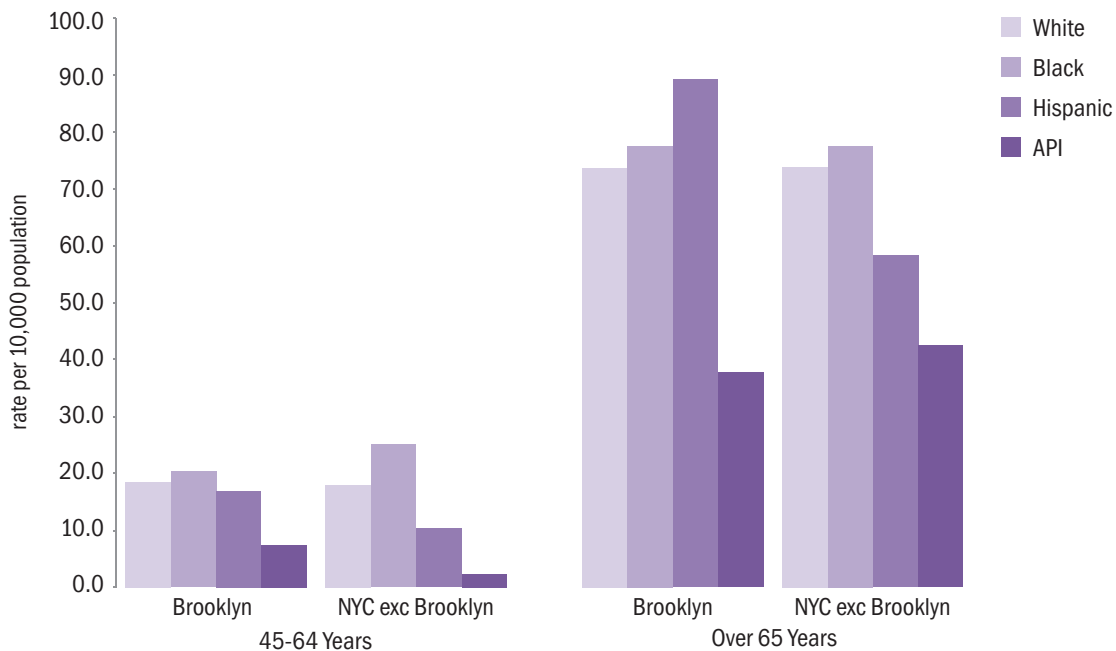
### Percent of COPD Hospitalizations in Brooklyn by Race/Ethnicity, 1995 and 2005



Note: Hospitalizations shown are for persons 18 years and older. Asthma hospitalizations were excluded from analysis.  
Source: HANYS, SPARCS, 2008

The rate of COPD hospitalizations was higher in persons over 65, both in Brooklyn and the rest of New York City. Hispanics over 65 in Brooklyn had higher hospitalization rates than their counterparts in the rest of the city. Asian and Pacific Islanders had the lowest rates of any racial or ethnic group. Brooklyn Blacks and Whites over 65 had similar hospitalization rates to their counterparts in the rest of the city.

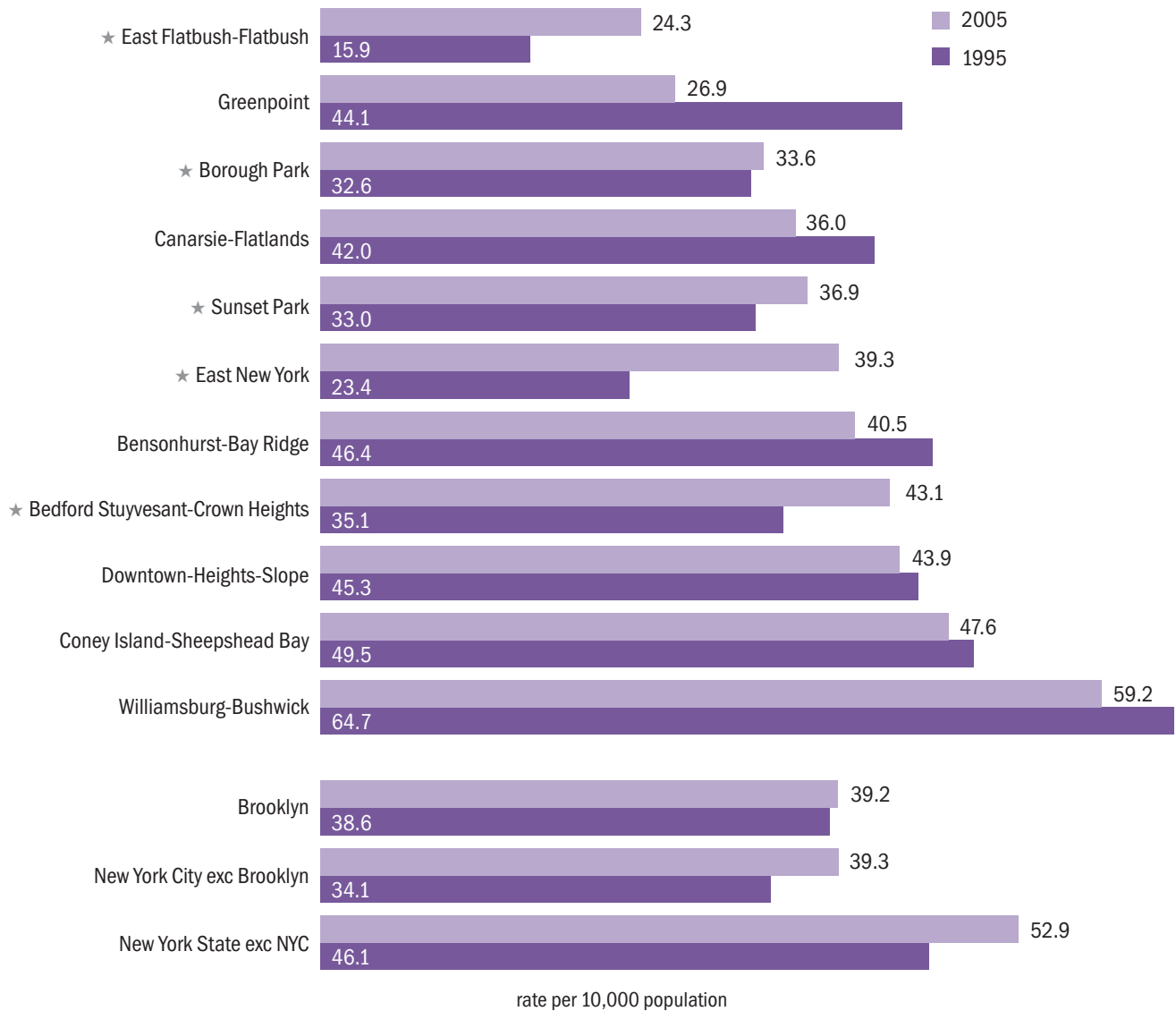
### COPD Hospitalization Rates by Age and Race/Ethnicity, 2005



Note: Asthma hospitalizations were excluded from analysis.  
Source: HANYS, SPARCS, 2008

In 2005, five Brooklyn neighborhoods—Bensonhurst-Bay Ridge, Bedford Stuyvesant-Crown Heights, Downtown-Heights-Park Slope, Coney Island-Sheepshead Bay, and Williamsburg-Bushwick—had higher COPD hospitalization rates than the rest of the city. Williamsburg-Bushwick had an even higher rate than New York State. Given that there was a slight rise in COPD hospitalization rates in Brooklyn from 1995 to 2005, the decline or increase by neighborhood may be explained by a number of factors, such as an increase in the proportion of the population over the age of 45 during this period.

**COPD Hospitalization Rates for Persons over 45 by Brooklyn Neighborhood, 1995 and 2005**

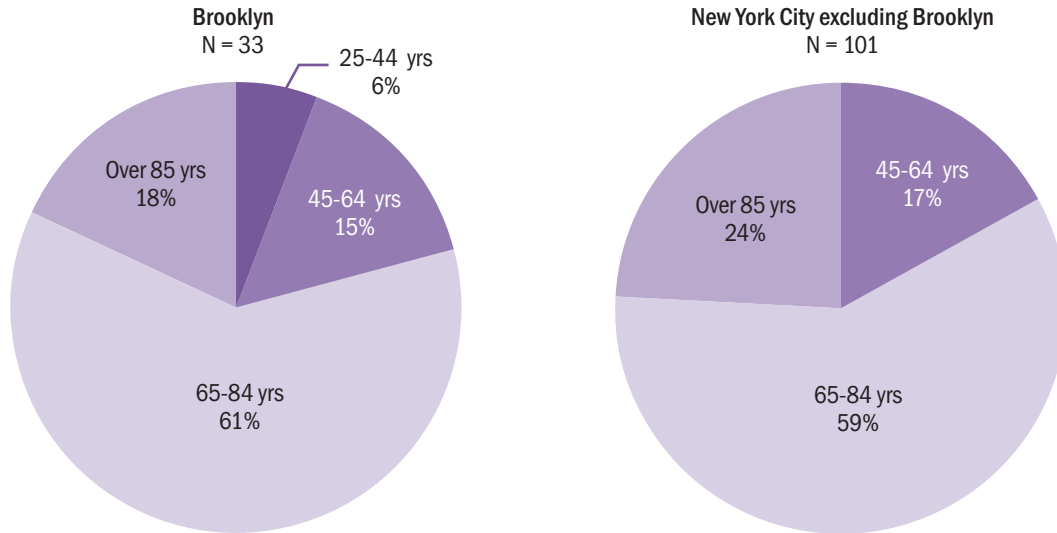


★ Brooklyn neighborhoods that experienced a rise in COPD hospitalization rates from 1995 to 2005. Asthma hospitalizations were excluded from analysis.  
Source: HANYS, SPARCS, 2008

# EMPHYSEMA

In Brooklyn, the number of deaths from emphysema declined from 82 in 1993 (not shown here, see Appendix Table B) to 33 in 2007. People over the age of 65 account for most deaths due to emphysema. The decrease in emphysema deaths closely shadows the decline in smoking over the past decades.

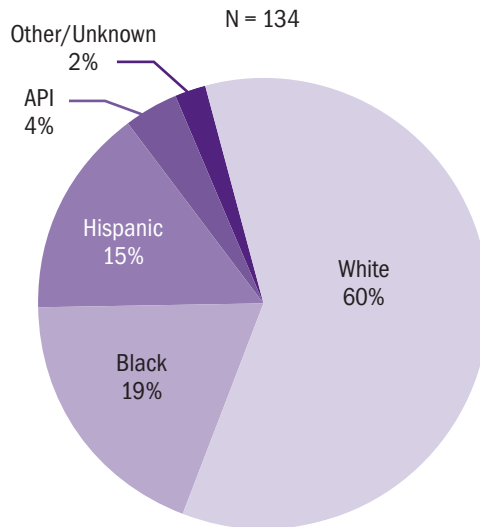
## Percent of Emphysema Deaths by Age, 2007



Note: The numbers of Brooklyn deaths for ages 25-44 and for ages 45-64 are small and need to be viewed with caution.

In 2007, 60 percent of emphysema deaths in New York City were among White residents.

## Percent of Emphysema Deaths in New York City by Race/Ethnicity, 2007

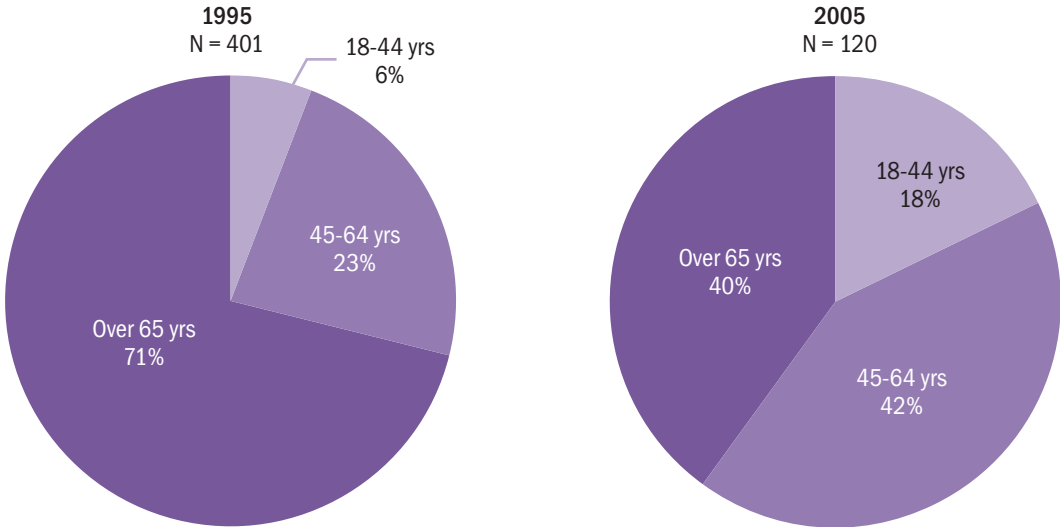


Note: Emphysema deaths for Brooklyn are not shown because the numbers reported by race/ethnicity are too small for accurate comparison.  
Source: 2007 Mortality Data, NYCDOHMH, 2010

# HOSPITALIZATIONS FOR EMPHYSEMA

The number of hospitalizations for emphysema in Brooklyn declined from 1995 to 2005. Emphysema hospitalizations for people over 65 decreased sharply, from 71 percent in 1995 to 40 percent in 2005—this despite the growing proportion of people in this age group.

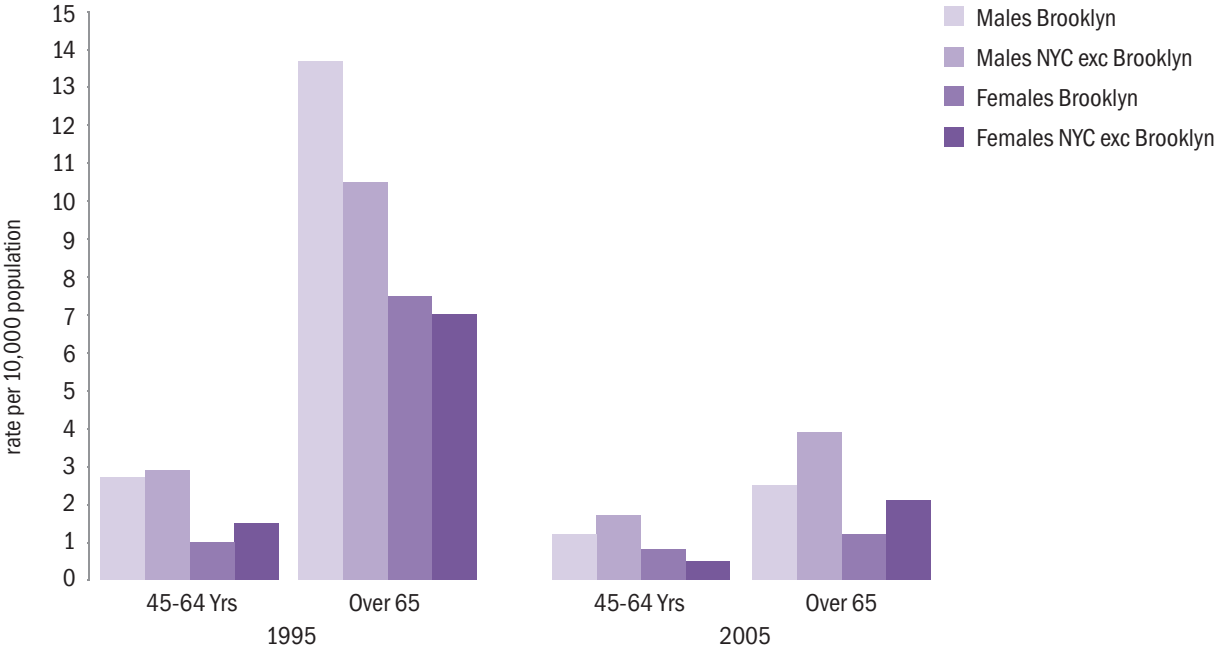
**Percent of Emphysema Hospitalizations in Brooklyn by Age, 1995 and 2005**



Note: Hospitalizations given are for persons age 18 and older. The number of hospitalizations for ages 18-44 is small and needs to be viewed with caution.  
Source: HANYS, SPARCS, 2008

Emphysema hospitalization rates declined from 1995 to 2005, especially for people over 65. For both men and women, those over 65 have a higher hospitalization rate for emphysema than younger members of their sex..

**Emphysema Hospitalization Rates by Age and Sex, 1995 and 2005**

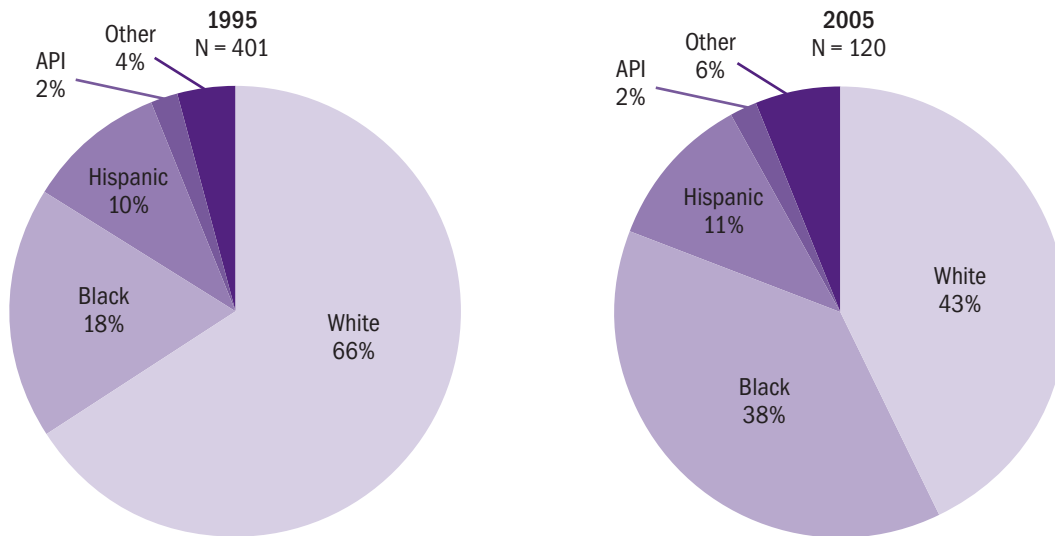


Source HANYS, SPARCS, 2008.

## HOSPITALIZATIONS FOR EMPHYSEMA

The percentage of White residents hospitalized for emphysema in Brooklyn declined between 1995 and 2005. (See Appendix Table E for data on the rest of New York City.) However, hospitalizations among Black residents rose during this period.

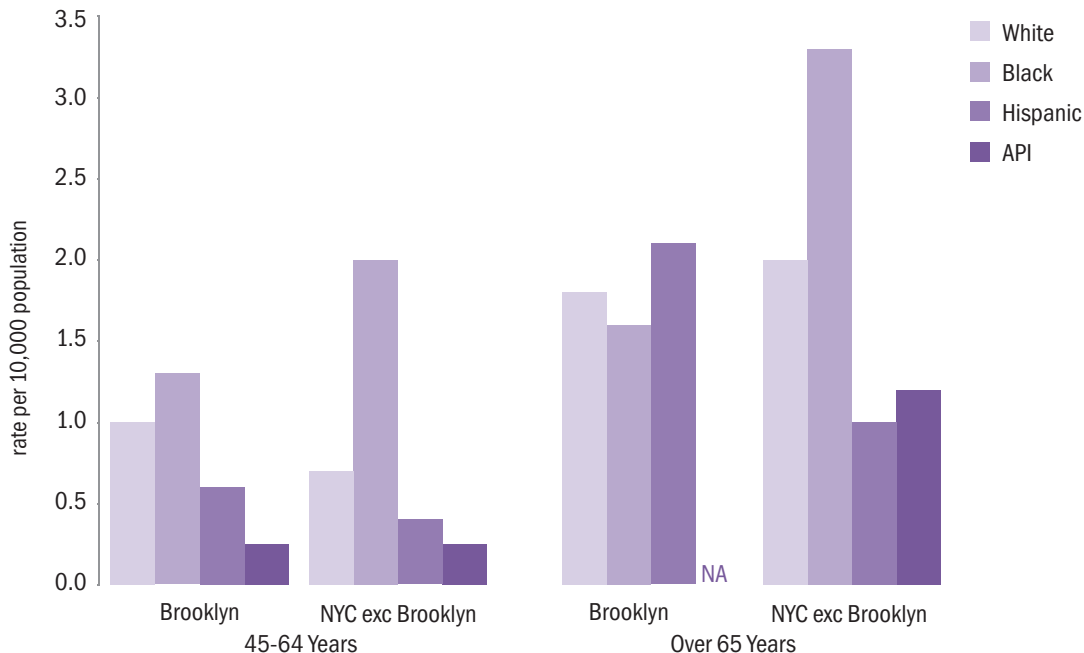
### Percent of Emphysema Hospitalizations in Brooklyn by Race/Ethnicity, 1995 and 2005



Note: Hospitalizations given are for persons age 18 and older.  
Source: HANYS, SPARCS, 2008

The rate of emphysema hospitalizations for people of all races and ethnicities was highest among those over 65, both in Brooklyn and the rest of New York City. The hospitalization rate for elderly Hispanics was higher in Brooklyn than in the rest of the city, and also higher than for any other races or ethnic groups of elderly residents in Brooklyn. Elderly Black residents of Brooklyn had a much lower hospitalization rate than those living in the rest of the city.

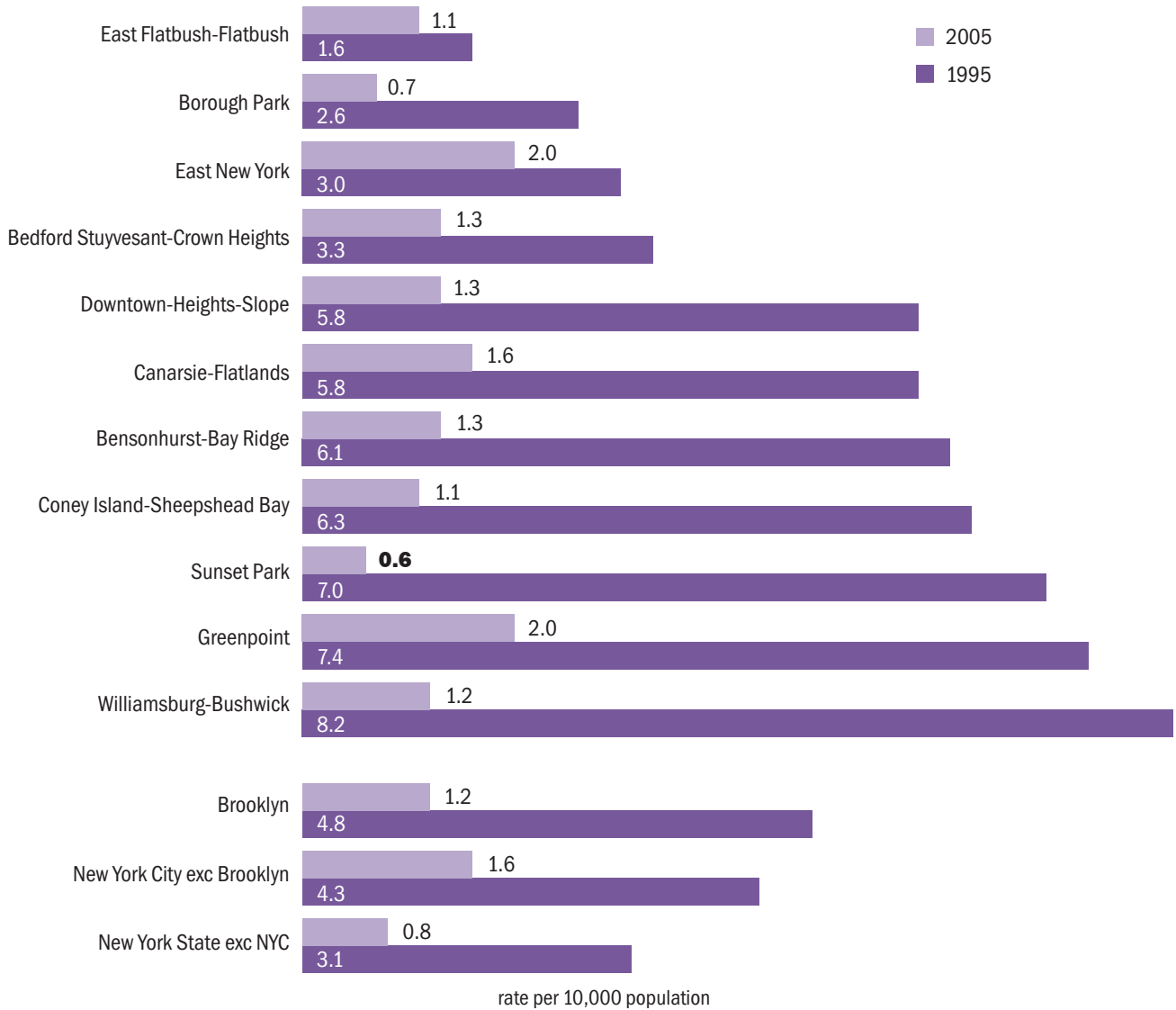
### Emphysema Hospitalization Rates by Age and Race/Ethnicity, 2005



Source HANYS, SPARCS, 2008.

From 1995 to 2005, the rate of hospitalization for emphysema declined substantially in every Brooklyn neighborhood, as well as in the rest of the city and state. This may be explained by the decline in smoking—and possibly by better access to primary or outpatient care for individuals with emphysema.

**Emphysema Hospitalization Rates for Persons over 45 by Brooklyn Neighborhood, 1995 and 2005**



Note: Rate shown in bold is not reliable due to low numbers of hospitalizations reported.

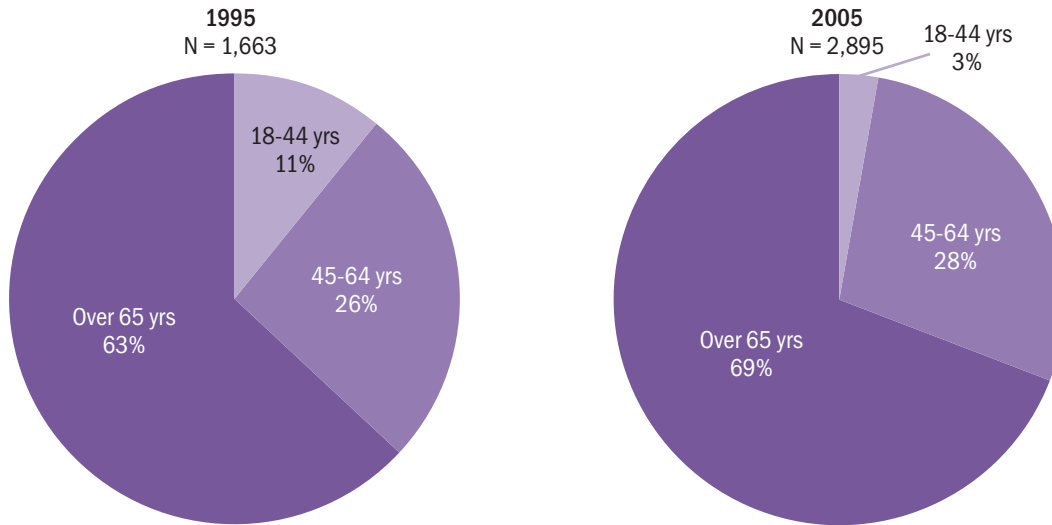
Source: HANYS, SPARCS, 2008.



# CHRONIC BRONCHITIS

The number of hospitalizations for chronic bronchitis in Brooklyn rose from 1995 to 2005. Nearly two-thirds of hospitalizations were for persons over 65. The increase in chronic bronchitis hospitalizations may be due to complications from pneumonia and influenza, a history of smoking, or asthma. The fact that hospitals are reporting more admissions for chronic bronchitis may indicate that patients are receiving a more accurate diagnosis when they come in for treatment. Or, more patients may be entering the hospital because they are not receiving adequate primary care.

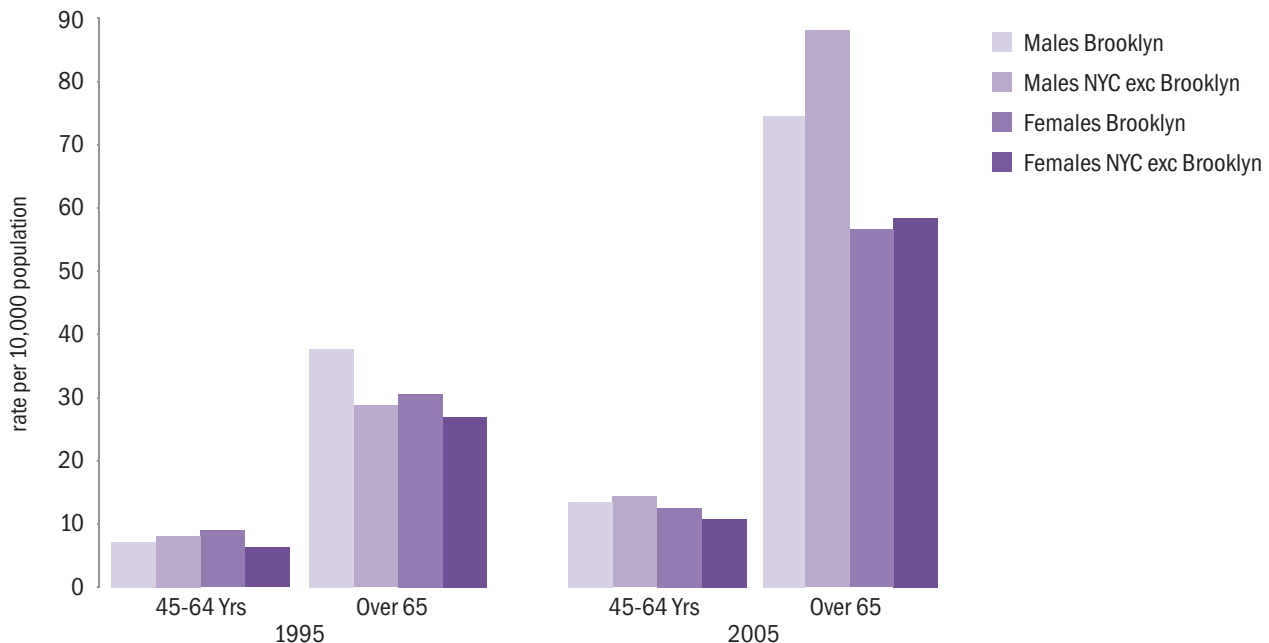
## Percent of Chronic Bronchitis Hospitalizations in Brooklyn by Age, 1995 and 2005



Note: Hospitalizations shown are for persons 18 and older. Source: HANYS, SPARCS, 2008

The hospitalization rate for chronic bronchitis was much higher in persons over 65 than those 45-64 years old, regardless of whether they live in Brooklyn or the rest of the city. In 1995 and 2005, Brooklyn males over 65 had higher hospitalization rates for chronic bronchitis than the borough's female residents in the same age group.

## Chronic Bronchitis Hospitalization Rates by Age and Sex, 1995 and 2005

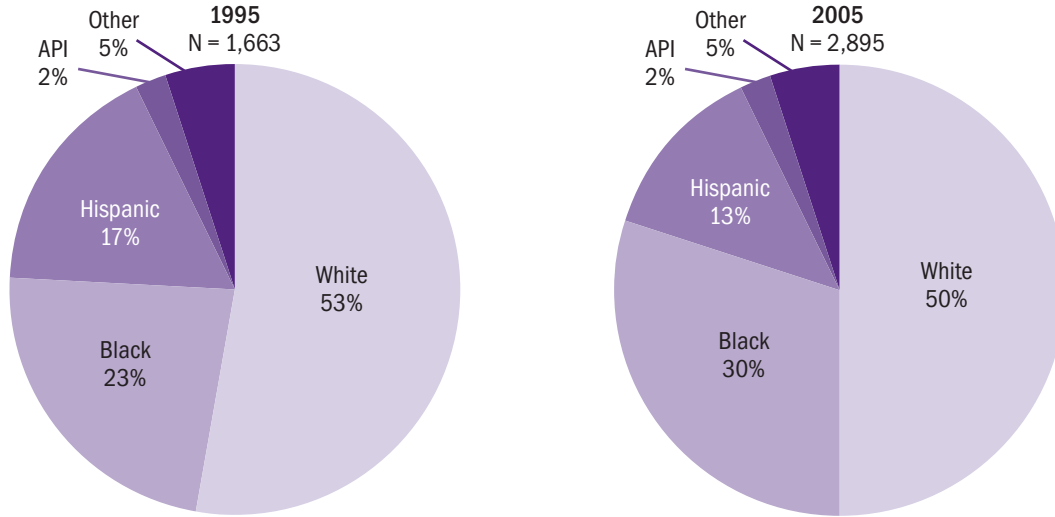


Source: HANYS, SPARCS, 2008

# HOSPITALIZATIONS FOR CHRONIC BRONCHITIS

From 1995 to 2005, the number of hospitalizations for chronic bronchitis in Brooklyn increased and the racial profile of the hospitalizations changed. The percentage of White residents hospitalized for chronic bronchitis declined slightly. This was also true for Hispanic residents. However, the percentage of Blacks hospitalized during this period increased. This may be due to a change in the racial and ethnic composition of the age group most at risk for chronic bronchitis. Improved hospital methods of diagnosis and reporting in 2005 may also account for the change.

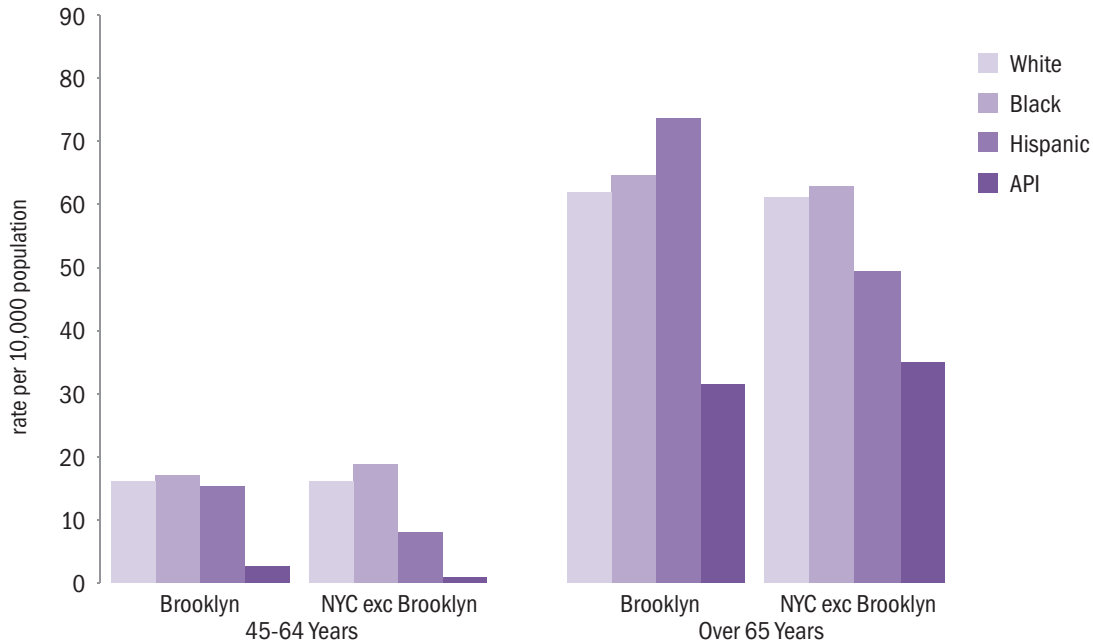
## Percent of Chronic Bronchitis Hospitalizations in Brooklyn by Race/Ethnicity, 1995 and 2005



Note: Hospitalizations shown are for persons 18 and older. Source: HANYS, SPARCS, 2008.

The hospitalization rate for chronic bronchitis was much higher for persons over 65 than for 45 to 64 year olds. Hispanics in Brooklyn had a much higher hospitalization rate due to chronic bronchitis than Hispanics in the rest of the city. Black and White residents of Brooklyn over 65 had slightly higher hospitalization rates compared to their counterparts in the rest of the city. Asian and Pacific Islanders, regardless of age group, had much lower hospitalization rates.

## Chronic Bronchitis Hospitalization Rates by Age and Race/Ethnicity, 2005

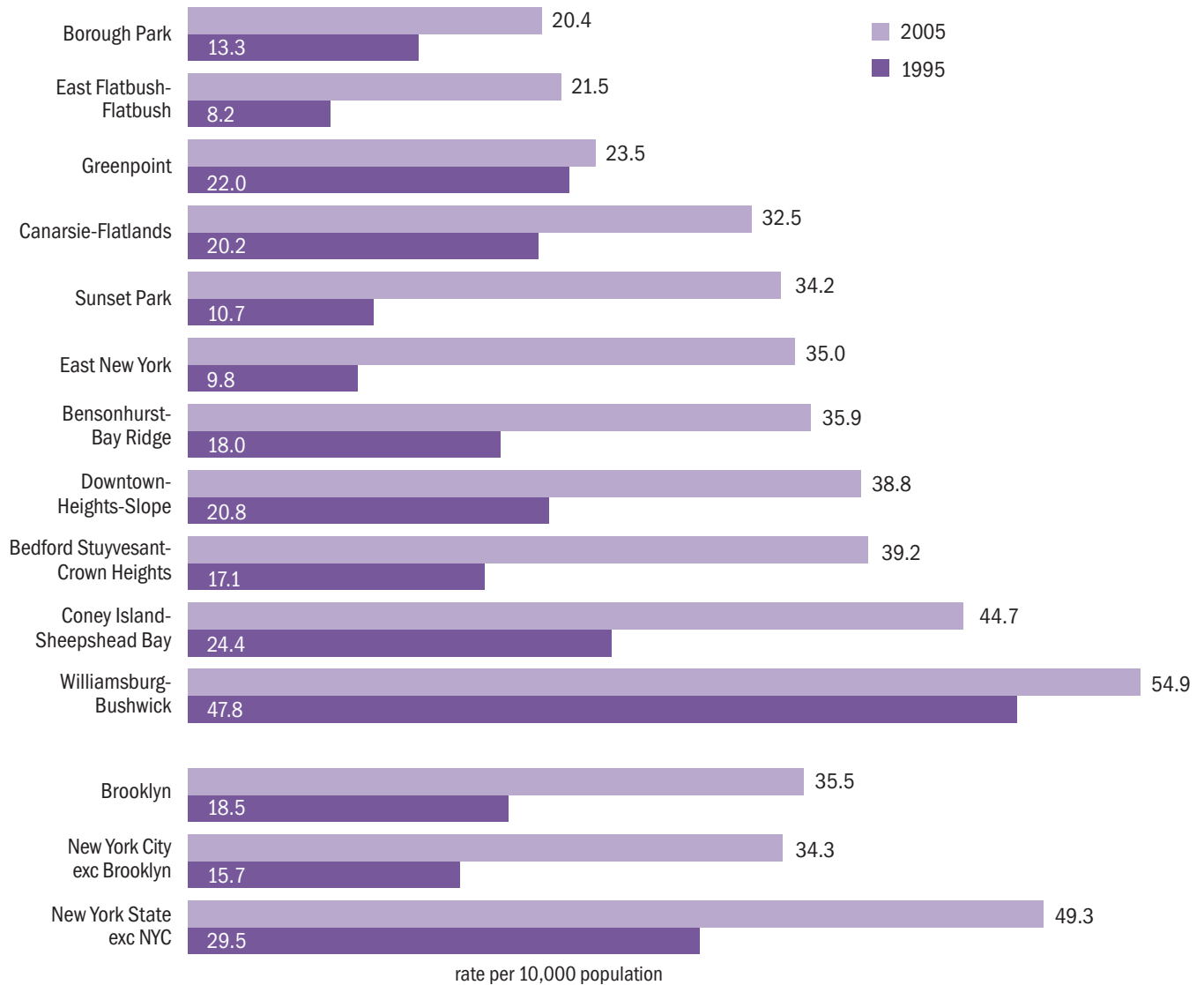


Note: Rate for Brooklyn Asian and Pacific Islanders (API) ages 45-64 is not reliable due to small number of hospitalizations for chronic bronchitis reported in 2005. Source: HANYS, SPARCS, 2008.

## HOSPITALIZATIONS FOR CHRONIC BRONCHITIS

From 1995 and 2005, the hospitalization rate for chronic bronchitis among people over 45 rose in every Brooklyn neighborhood, the borough as a whole, and the rest of the city and state. In 2005, five Brooklyn neighborhoods—Bensonhurst-Bay Ridge, Downtown-Heights-Park Slope, Bedford Stuyvesant-Crown Heights, Coney Island-Sheepshead Bay, and Williamsburg-Bushwick—had higher hospitalization rates than the borough. Six neighborhoods had rates higher than the city. Greenpoint and Williamsburg-Bushwick had a much lower percentage change in the rate of chronic bronchitis hospitalizations than the other nine Brooklyn neighborhoods between 1995 and 2005.

### Chronic Bronchitis Hospitalization Rates for Persons over 45 by Brooklyn Neighborhood, 1995 and 2005



Source: HANYS, SPARCS, 2008

## APPENDICES

**Table A: Age-specific Death Rates for Chronic Obstructive Pulmonary Disease by Race/Ethnicity, 2007**

	Brooklyn*	New York City excluding Brooklyn				
	All Races	All Races	White	Black	Hispanic	Asian & Pacific Islander
Under 25 Years	0.5	0.6	0.4	0.9	0.6	0.0
25 - 44 Years	0.9	1.5	1.1	1.5	2.1	0.3
45 - 64 Years	14.2	13.1	15.2	19.5	9.9	2.4
65 - 84 Years	70.4	98.1	94.2	86.2	92.6	62.5
Over 85 Years	295.7	362.0	328.4	322.6	392.6	713.1

\* Deaths by race/ethnicity and age for Brooklyn were too small for accurate and reliable comparison.

Rates in italics are too small for accurate and reliable comparison.

Source: Bureau of Epidemiology Services, NYCDOHMH, 2010

**Table B: Number of Deaths for COPD, Emphysema, & Chronic Bronchitis**

Year	Chronic Obstructive Pulmonary Disease		Emphysema		Chronic Bronchitis	
	Brooklyn	New York City exc Brooklyn	Brooklyn	New York City exc Brooklyn	Brooklyn	New York City exc Brooklyn
1993	420	1,145	82	172	12	33
1994	433	1,192	84	173	17	39
1995	496	1,102	71	182	21	28
1996	508	1,135	47	156	14	15
1997	462	1,142	60	133	9	18
1998	435	1,187	40	135	10	12
1999	511	1,273	39	98	2	2
2000	423	1,186	34	112	5	3
2001	455	1,221	28	129	2	3
2002	455	1,247	41	118	3	2
2003	447	1,224	37	113	3	0
2004	431	1,239	27	105	4	2
2005	404	1,176	39	91	1	3
2006	340	1,045	30	90	1	4
2007	363	1,064	33	101	2	2

Source: Bureau of Epidemiology Services, NYCDOHMH, 2010

**Table C: Hospitalizations for Chronic Obstructive Pulmonary Disease by Age, 1995 and 2005**

		Bedford Stuyvesant- Crown Heights	Bensonhurst- Bay Ridge	Borough Park	Canarsie- Flatlands	Coney Island- Sheepshead Bay	Downtown- Heights-Slope	East Flatbush Flatbush
<b>1995</b> (Number of Hospitalizations)	COPD (All Ages)	356	372	372	300	621	310	166
	18 to 44 Years	41	9	16	9	13	23	11
	45 to 64 Years	115	77	59	70	136	79	48
	Over 65 Years	200	286	297	221	472	208	107
	Over 45 Years	315	363	356	291	608	287	155
<b>1995</b> (% COPD Hospitalizations)	18 to 44 Years	11.5	2.4	4.3	3.0	2.1	7.4	6.6
	45 to 64 Years	32.3	20.7	15.9	23.3	21.9	25.5	28.9
	Over 65 Years	56.2	76.9	79.8	73.7	76.0	67.1	64.5
	Over 45 Years	88.5	97.6	95.7	97.0	97.9	92.6	93.4
<b>2005</b> (Number of Hospitalizations)	COPD (All Ages)	405	321	374	262	602	296	252
	18 to 44 Years	18	4	7	13	17	18	14
	45 to 64 Years	155	87	99	76	117	90	96
	Over 65 Years	232	230	268	173	468	188	142
	Over 45 Years	387	317	367	249	585	278	238
<b>2005</b> (% COPD Hospitalizations)	18 to 44 Years	4.4	1.2	1.9	5.0	2.8	6.1	5.6
	45 to 64 Years	38.3	27.1	26.5	29.0	19.4	30.4	38.1
	Over 65 Years	57.3	71.7	71.7	66.0	77.7	63.5	56.3
	Over 45 Years	95.6	98.8	98.1	95.0	97.2	93.9	94.4

**Table D: Hospitalizations for Chronic Obstructive Pulmonary Disease by Race/Ethnicity, 1995 and 2005**

		Bedford Stuyvesant- Crown Heights	Bensonhurst- Bay Ridge	Borough Park	Canarsie- Flatlands	Coney Island- Sheepshead Bay	Downtown- Heights-Slope	East Flatbush Flatbush
<b>1995</b> (Number of Hospitalizations)	COPD (All Ages)	356	372	372	300	621	310	166
	White	19	352	319	248	557	162	45
	Black	313	3	18	34	23	61	104
	API	0	8	15	0	9	9	2
	Hispanic	16	1	10	12	10	54	7
	Other	8	8	10	6	22	24	8
<b>1995</b> (% COPD Hospitalizations)	White	5.3	94.6	85.8	82.7	89.7	52.3	27.1
	Black	87.9	0.8	4.8	11.3	3.7	19.7	62.7
	API	0.0	2.2	4.0	0.0	1.4	2.9	1.2
	Hispanic	4.5	0.3	2.7	4.0	1.6	17.4	4.2
	Other	2.2	2.2	2.7	2.0	3.5	7.7	4.8
<b>2005</b> (Number of Hospitalizations)	COPD (All Ages)	405	321	374	262	602	296	252
	White	14	290	289	164	487	124	45
	Black	355	2	19	70	45	80	175
	API	0	15	19	2	18	4	1
	Hispanic	27	7	27	11	16	76	16
	Other	9	7	20	15	36	12	15
<b>2005</b> (% COPD Hospitalizations)	White	3.5	90.3	77.3	62.6	80.9	41.9	17.9
	Black	87.7	0.6	5.1	26.7	7.5	27.0	69.4
	API	0.0	4.7	5.1	0.8	3.0	1.4	0.4
	Hispanic	6.7	2.2	7.2	4.2	2.7	25.7	6.3
	Other	2.2	2.2	5.3	5.7	6.0	4.1	6.0

Source: HANYS, SPARCS, 2008

Table C continued

		East New York	Greenpoint	Sunset Park	Williamsburg-Bushwick	Brooklyn	NYC exc Brooklyn	NYS exc NYC
<b>1995</b> (Number of Hospitalizations)	COPD (All Ages)	112	166	124	394	3,294	6,716	19,351
	18 to 44 Years	9	12	16	77	236	430	653
	45 to 64 Years	38	30	29	144	825	1,747	4,879
	Over 65 Years	65	124	79	173	2,233	4,539	13,819
	Over 45 Years	103	154	108	317	3,058	6,286	18,698
<b>1995</b> (% COPD Hospitalizations)	18 to 44 Years	8.0	7.2	12.9	19.5	7.2	6.4	3.4
	45 to 64 Years	33.9	18.1	23.4	36.5	25.0	26.0	25.2
	Over 65 Year	58.0	74.7	63.7	43.9	67.8	67.6	71.4
	Over 45 Year	92.0	92.8	87.1	80.5	92.8	93.6	96.6
<b>2005</b> (Number of Hospitalizations)	COPD (All Ages)	184	99	124	308	3,228	7,512	21,931
	18 to 44 Years	11	5	3	18	128	275	478
	45 to 64 Years	68	29	33	94	944	2,097	6,021
	Over 65 Year	105	65	88	196	2,156	5,140	15,432
	Over 45 Year	173	94	121	290	3,100	7,237	21,453
<b>2005</b> (% COPD Hospitalizations)	18 to 44 Years	6.0	5.1	2.4	5.8	4.0	3.7	2.2
	45 to 64 Years	37.0	29.3	26.6	30.5	29.2	27.9	27.5
	Over 65 Years	57.1	65.7	71.0	63.6	66.8	68.4	70.4
	Over 45 Years	94.0	94.9	97.6	94.2	96.0	96.3	97.8

Table D continued

		East New York	Greenpoint	Sunset Park	Williamsburg-Bushwick	Brooklyn	NYC exc Brooklyn	NYS exc NYC
<b>1995</b> (Number of Hospitalizations)	COPD (All Ages)	112	166	124	394	3,294	6,716	19,351
	Whites	21	89	95	58	1,966	4,073	17,152
	Black	54	5	3	92	710	1,156	925
	API	1	1	10	9	64	159	69
	Hispanic	27	50	11	203	401	665	349
	Other	9	21	5	32	153	663	856
<b>1995</b> (% COPD Hospitalizations)	White	18.8	53.6	76.6	14.7	59.7	60.6	88.6
	Black	48.2	3.0	2.4	23.4	21.6	17.2	4.8
	API	0.9	0.6	8.1	2.3	1.9	2.4	0.4
	Hispanic	24.1	30.1	8.9	51.5	12.2	9.9	1.8
	Other	8.0	12.7	4.0	8.1	4.6	9.9	4.4
<b>2005</b> (Number of Hospitalizations)	COPD (All Ages)	184	99	124	308	3,228	7,512	21,931
	White	20	55	57	34	1,579	3,710	19,505
	Black	102	11	2	116	978	1,541	1,131
	API	3	3	12	4	81	237	47
	Hispanic	51	13	50	124	418	1,010	403
	Other	8	17	3	30	172	1,014	845
<b>2005</b> (% COPD Hospitalizations)	White	10.9	55.6	46.0	11.0	48.9	49.4	88.9
	Black	55.4	11.1	1.6	37.7	30.3	20.5	5.2
	API	1.6	3.0	9.7	1.3	2.5	3.2	0.2
	Hispanic	27.7	13.1	40.3	40.3	12.9	13.4	1.8
	Other	4.3	17.2	2.4	9.7	5.3	13.5	3.9

Source: HANYS, SPARCS, 2008

Table E: Hospitalizations in Persons Over 45 for Emphysema and Chronic Bronchitis by Race/Ethnicity, 1995 and 2005

		Emphysema		Chronic Bronchitis		All COPD	
		Brooklyn	NYC exc Brooklyn	Brooklyn	NYC exc Brooklyn	Brooklyn	NYC exc Brooklyn
<b>1995</b> (Number of Hospitalizations)	All Ages	401	849	1,663	3,176	3,294	6,716
	White	263	574	869	1,751	1,966	4,073
	Black	71	123	384	567	710	1,156
	API	9	21	31	72	64	159
	Hispanic	41	45	289	403	401	665
	Other	17	86	90	383	153	663
<b>1995</b> (% COPD Hospitalizations)	White	65.6	67.6	52.3	55.1	59.7	60.6
	Black	17.7	14.5	23.1	17.9	21.6	17.2
	API	2.2	2.5	1.9	2.3	1.9	2.4
	Hispanic	10.2	5.3	17.4	12.7	12.2	9.9
	Other	4.2	10.1	5.4	12.1	4.6	9.9
<b>2005</b> (Number of Hospitalizations)	All Ages	120	321	2,895	6,536	3,228	7,512
	White	52	120	1,431	3,301	1,579	3,710
	Black	46	89	870	1,318	978	1,541
	API	2	13	63	181	81	237
	Hispanic	13	28	382	897	418	1,010
	Other	7	71	149	839	172	1,014
<b>2005</b> (% COPD Hospitalizations)	White	43.3	37.4	49.4	50.5	48.9	49.4
	Black	38.3	27.7	30.1	20.2	30.3	20.5
	API	1.7	4.0	2.2	2.8	2.5	3.2
	Hispanic	10.8	8.7	13.2	13.7	12.9	13.4
	Other	5.8	22.1	5.1	12.8	5.3	13.5

Source: HANYS, SPARCS, 2008

## GLOSSARY

**Bronchiectasis** – a lung infection caused by severe pneumonia, whooping cough or measles (less frequent now due to vaccination), tuberculosis, or a fungus.

**Extrinsic allergic alveolitis** – a condition usually caused by inhaling particles/dust from animal and vegetables. People who worked in food industries, such as chicken processing factories, have a risk for this disease. Also, heavy crack smoking can cause crack lung, a form of extrinsic allergic alveolitis.

**Chronic airway obstruction, not elsewhere classified** – a type of chronic obstructive disease of the airways that excludes bronchitis, emphysema, asthma, bronchiectasis, and extrinsic allergic alveolitis.

## IMPORTANT INFORMATION

### CLINICAL DIAGNOSIS OF CHRONIC COUGHING

Chronic coughing (a key symptom of COPD) is also associated with other conditions such as postnasal drip, asthma, acid reflux (GERD), lung cancer, respiratory tract infections, and the use of ACE inhibitors (medications for high blood pressure). Several tests are required to confirm whether a person has COPD, especially for chronic bronchitis. In many cases, when not all necessary tests are performed to establish an accurate diagnosis, chronic bronchitis is reported at the expense of other conditions.

### BRONCHODILATOR TREATMENTS

**SHORT-ACTING TREATMENTS** – for people who need treatment to control the urgent symptoms of COPD.

**Short-acting Beta Agonists (Rescue Inhalers)** – quickly relieve shortness of breath in an urgent situation.

**Short-acting Anticholinergics** – used for severe and frequent symptoms.

**Short-acting Combination Inhalers** – used with short-acting anticholinergic medicines as needed or regularly, depending upon the symptoms.

**LONG-ACTING TREATMENTS** – for people who need treatment on a regular basis to control COPD.

**Long-acting Beta Agonists (Inhalers)** – used if symptoms cannot be controlled with other treatments.

**Long-acting Anticholinergics** – used to improve lung function and for shortness of breath that is not controlled with rescue inhalers and other treatments.

**Theophylline** – used for very severe but stable COPD. It is very toxic and must be monitored closely.

## TECHNICAL NOTES

Chronic obstructive pulmonary disease mortality data for New York City and Brooklyn come from the Epiquery: NYC Interactive Health Data System *Vital Statistics Mortality Data Sets*, New York City Department of Health and Mental Hygiene. Additional mortality data was requested from the Bureau of Epidemiology Services, NYCDOHMH. Disease mortality data for the United States come from Hoyert DL, Kung HC, and Smith BL, Health, the United States 2008, U.S. National Centers for Health Statistics – Centers for Disease Control and Prevention, 2010; and *Deaths: Preliminary Data for 2007*, U.S. National Centers for Health Statistics – Centers for Disease Control and Prevention, 2009.

Chronic obstructive pulmonary disease (COPD) hospitalizations were provided by the Hospital Association of New York State and is generated from the Statewide Planning and Research Cooperative System (SPARCS) of the New York State Department of Health. Definitions for COPD are based on the ICD 9 and 10 codes used by the Office of Vital Statistics, New York City Department of Health and Mental Hygiene, New York State Department of Health, and the Centers for Disease Control and Prevention when compiling and reporting on disease hospitalizations and mortality. Age-specific rates and other demographic indicators were obtained using data from the 2000 U.S. Census. In instances when the hospitalization and mortality counts are too small, the calculated rates are unstable and should be viewed with caution. These findings are highlighted and noted in the document.

All disease outcomes are age-adjusted when possible. An age-adjusted rate takes into consideration the differences in the distribution of age in a population and the impact it may have on disease outcomes. This is important when comparing the prevalence of disease in different geographic areas if the age distribution within the areas is not the same.



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