

# **REPORT ON HEART DISEASE AND STROKE**

# SUNY DOWNSTATE MEDICAL CENTER

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#### LETTER FROM THE PRESIDENT

Fellow residents and friends of Brooklyn:

Cardiovascular disease — heart disease and stroke — is the leading cause of death for all Americans, regardless of gender, race, or ethnic ancestry. In 1997, heart disease and stroke killed 9,010 residents of Brooklyn alone, accounting for nearly half of all deaths in the borough.

Numerous studies have documented that good nutrition, exercise, and smoking cessation can substantially reduce the risk of heart disease and stroke. Many such deaths can be prevented. Numerous studies have documented that good nutrition, exercise, and smoking cessation can substantially reduce the risk of heart disease and stroke. High cholesterol, hypertension, and diabetes—three heath-risk factors that affect Brooklynites in disproportionately higher numbers than people living elsewhere—also contribute heavily to death from heart disease and stroke.

Heart disease and stroke have a significant impact on quality of life. According to the Centers for Disease Control and Prevention, one in four Americans is debilitated by these diseases. Each year, approximately 6 million Americans—nearly 50,000 of them Brooklynites—are hospitalized for cardiovascular disease. Many are permanently disabled.

This report highlights some of the issues surrounding heart disease and stroke in Brooklyn and documents the important health problems they raise. Understanding these issues is the first step in designing the programs necessary to deal with them.

With your help we can greatly reduce the burden that cardiovascular disease places on the borough and its people.

John C. LaRosa, M.D. President

# THE BURDEN OF CARDIOVASCULAR DISEASE

Cardiovascular disease is the leading cause of death throughout the country. In Brooklyn, however, heart disease and stroke take an even greater toll than elsewhere in the state or nation.

# **Top Five Causes of Death**



\* Chronic Obstructive Pulmonary Disease

Sources: 1997 Vital Statistics Report, NYSDOH; Deaths: Final Data for 1997; CDC

In 1997, 47.4 percent of all deaths in the borough was attributable to heart disease and stroke, compared to 41.9 percent in the state and 38.3 percent in the nation.



Percentage of Deaths Due to Heart Disease and Stroke, 1997

#### DEATH RATES FROM HEART DISEASE

Death rates from heart disease vary among the different racial and ethnic groups living in Brooklyn. Whites have the highest rate. Hispanics living in Brooklyn also have a higher death rate from the disease than those living elsewhere in the state and country. Black residents of Brooklyn and the state have virtually identical death rates from heart disease, but both groups are at greater risk than blacks living elsewhere in the country. Many factors may account for these differences, including diet, lifestyle, and access to health care.

Despite these differences, heart disease is the number one killer for all racial groups in Brooklyn, the state, and the nation.



Source: Bureau of Biometrics, New York State Department of Health. "Health, United States, 1999" - National Centers for Health Statistics, US Department of Health and Human Services.

\* US data is calculated to different base years and is only roughly comparable to Brooklyn and New York State.

# THE BOROUGH'S IMMIGRANTS

Brooklyn's ethnic and cultural diversity is enriched by waves of immigration. From 1982 to 1996, immigration to the borough totaled more than 480,000 people. In the 80s, these immigrants came primarily from the Caribbean; in the 90s, from the former Soviet Union and Eastern Europe.

These immigration patterns can affect rates of heart disease and death in the borough. For example, Caribbean-born blacks have a lower chance of dying from heart disease than black or white native-born Americans.\* Recent immigrants from Eastern Europe and the former Soviet Union, on the other hand, have higher rates of heart disease than many other white ethnic groups. These differences may be due, in part, to diet and lifestyle.

Health-care professionals must consider these differences in designing effective prevention and treatment programs.

\* Jim Fang, Shantha Madhavan, and Michael H. Alderman, "The Association between Birthplace and Mortality from Cardiovascular Causes among Black and White Residents of New York City," *New England Journal of Medicine* (1996), 335, no. 21, pp. 1545-1551.n

#### **TOP TEN IMMIGRANT GROUPS FOR BROOKLYN**







Source: The Newest New Yorkers, 1982-89 & 1990-96 NYC Department of City Planning.

# DEATH RATES FROM CARDIOVASCULAR DISEASES BY RACE, GENDER AND BIRTHPLACE FOR NYC, 1988-1992







Source: Jim Fang, Shantha Madhavan, and Michael H. Alderman, "The Association between Birthplace and Mortality from Cardiovascular Causes among Black and White Residents of New York City," *New England Journal of Medicine* (1996), 335, no. 21, pp. 1545-1551.n

#### HEART DISEASE DEATHS BY AGE AND GENDER

For people of all ages, the rate of heart disease deaths is greater in Brooklyn than it is throughout New York State, excluding New York City. For both the borough and the state, the rates for women are less than men. Ultimately, however, more women than men will die of heart disease because women on average live longer. In 1997, for example, 4,645 women died of heart disease in Brooklyn, compared to 3,701 men.



#### 1997 Heart Disease Deaths by Age and Gender

College of New York.

#### HEART DISEASE DEATHS BY NEIGHBORHOOD

Neighborhoods as defined by the United Hospital Fund of New York

Source: Death Data from InfoShare - City College of New York. Population from the 1990 US Census Disparities exist among Brooklyn neighborhoods in the rates of death from heart disease. The highest rates are generally in those neighborhoods with substantial white populations. In 1997, Sunset Park had particularly high rates among residents over the age of 55. The data also show that blacks are more likely to die earlier deaths from heart disease. For example, among 55- to 64-year-old residents living in Bedford-Stuyvesant/ Crown Heights and East New York, death rates are higher than those in other areas. n

#### 1997 Heart Disease Deaths by Brooklyn Neighborhoods



# **DEATH RATES FROM STROKE**

In 1997, 656 Brooklynites died of stroke. Overall, Brooklyn residents' death rate from stroke is somewhat higher than the national average but lower than the state's average. As shown on the next graph (see page 10), however, it is clear that stroke deaths in Brooklyn occur at an earlier age than elsewhere in the state. Only among Hispanics is the rate higher in Brooklyn than it is elsewhere in the state.



Source: Bureau of Biometrics, New York State Department of Health. "Health, United States, 1999" - National Centers for Health Statistics, US Department of Health and Human Services.

\* US data is calculated to different base years and is only roughly comparable to Brooklyn and New York State.

#### STROKE DEATHS BY AGE AND GENDER

Brooklynites are at greater risk of dying at an earlier age from stroke than other New York State residents. In Brooklyn, men between the ages of 35 and 74 and women between the ages of 35 and 64 are more likely to die from stroke than men and women living elsewhere in the state.

#### 1997 Stroke Deaths by Age and Gender



#### **STROKE DEATHS BY NEIGHBORHOOD**

Neighborhoods as defined by the United Hospital Fund of New York

Source: Death data from InfoShare-City College of New York. Population from the 1990 U.S. Census. Large disparities exist among Brooklyn neighborhoods in the rates of death from stroke. Adults of every age group living in Bedford-Stuyvestant/Crown Heights appear to be at much greater risk of stroke than those living in other Brooklyn neighborhoods. Among those 55- to 64-years old, residents of Greenpoint-Williamsburg and East New York also are at greater risk than residents of other neighborhoods.

#### 1997 Stroke Deaths by Brooklyn Neighborhoods



#### DELAY IN BEING HOSPITALIZED AMONG PATIENTS SUFFERING A HEART ATTACK

\*Luther Clark, Sai Ellam, Anjaman Shah, and Joseph Feldman, "Analysis of Prehospital Delay among Inner-City Patients with Symptoms of Myocardial Infarction: Implications for Therapeutic Intervention," *Journal of the National Medical Association*, (1992) 84, no. 11, pp. 931-937.

Early admission to a hospital—ideally, within an hour—greatly improves the chances of surviving a heart attack. Yet, wide disparities exist between men and women and between racial groups in the length of time it takes to seek treatment for a heart attack. A study of patients admitted to Kings County Hospital found that the widest disparity exited between white and black patients.\* Whites on average arrived at the hospital in 3.3 hours after the onset of symptoms, blacks in 13.1 hours. The most important factor in determining how quickly patients got to the hospital was the patient's belief that the symptoms he or she was experiencing might represent a heart attack.

# Average Time of Arrival at Hospital after Onset of Heart Attack Symptoms (in number of hours)



# DISTRIBUTION OF HEART SPECIALISTS AND SURGEONS

Despite the fact that Brooklyn has higher rates of heart disease, the borough is underrepresented in both the number of heart specialists and heart surgeons. It has 6.7 cardiologists per 100,000 residents compared to a statewide average of 10.5, and only .8 heart surgeons compared to the statewide average of 2.1. Within the city, Brooklyn has dramatically fewer heart specialists than Manhattan.



#### LOCATION OF CARDIAC CARE UNIT BEDS

Brooklyn is also underrepresented in the number of cardiac care beds, having fewer beds per 100,000 residents than the state and Manhattan. Because heart disease often requires emergency care, the distance to critical care facilities may be an important factor in obtaining the best medical results.



Per 100,000 Residents

# **REDUCING HEART DISEASE AND STROKE**

#### **Risk Factors for Heart Disease and Stroke**

- Obesity and poor nutrition
- Lack of regular exercise
- Elevated cholesterol
- High blood pressure
- Smoking
- Diabetes

Heart disease and stroke place a terrible burden on our community and our country. Not only is heart disease the leading cause of death, it is the leading cause of permanent disability among working adults. Stroke, alone, disables more than a million Americans.

It does not have to be this way. Heart disease and stroke are largely preventable diseases. That message needs to reach more residents of Brooklyn, where these two diseases account for a greater percentage of deaths than they do in New York State and the country.

We also need to formulate a public health research agenda. For reasons that are not entirely clear, Brooklynites die from heart attacks at a far greater rate than those living elsewhere in the country. We need research to understand why. We also need increased education about disease prevention. And we need to develop policies to increase our citizens' access to specialized cardiovascular services by increasing the number of heart specialists in the borough and increasing our investment in the latest technologies to reduce death from stroke and heart disease.

To successfully address this issue, we need your support and advice. If you have information or suggestions, please contact John C. LaRosa, M.D., President, SUNY Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, NY 11203.