



REPORT ON CANCER

SUNY DOWNSTATE MEDICAL CENTER

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LETTER FROM THE PRESIDENT

Cancer is the second leading cause of death in Brooklyn, and each year more than 4,000 Brooklynites die from some form of this disease.

Fellow residents and friends of Brooklyn:

If you were to go home and turn on the news this evening, it's very likely that you would hear a report about cancer. There might be, for example, a story on a new study that says that eating a diet rich in tomatoes lowers your risk of prostate cancer, or one advising women on whether they should get screened for the "breast cancer gene." It is easy to become confused by the different and sometimes puzzling information.

This report is designed to introduce you to some of the data that show why concerns about cancer are important here in our borough. Cancer is the second leading cause of death in Brooklyn, and each year more than 4,000 Brooklynites die from some form of this disease. Unfortunately, as time goes on, this number is likely to increase. The population in Brooklyn, and across the country, is aging, and national projections suggest that the yearly number of new cases of cancer will double by the year 2050.

It is important, however, to realize that many cancer deaths are preventable. Lung cancer, for example, could be vastly reduced if communities could support their members in giving up tobacco. More than 90 percent of lung cancers are directly attributable to smoking, and smoking is responsible for almost 1 in 4 of all cancer deaths in Brooklyn each year. Second-hand smoke is also deadly. Giving up cigarettes improves not only an individual's health but the health of his or her family and community.

Effective screening programs can also reduce the rate of cancer deaths: cervical cancer is largely preventable with regular Pap smear screening; and breast, prostate, and colorectal cancers are all far more treatable if they are caught at an early stage. Too often, however, Brooklyn residents learn that they have cancer only after the disease has reached an advanced stage.

We must work within our communities to make sure that Brooklynites have access to timely screening and prevention choices, as well as the latest in cancer treatments. New treatments not only hold the promise of saving lives; they may improve the quality of life for cancer patients.

The federal government set forth health promotion and disease prevention objectives—Healthy People 2010—to emphasize the relationship between individual and community health and to reduce health disparities, disability, and death. One such goal is to reduce the number of cancer deaths each year to 159 per 100,000 people. If Brooklyn could reach that target, more than 250 lives would be saved each year.

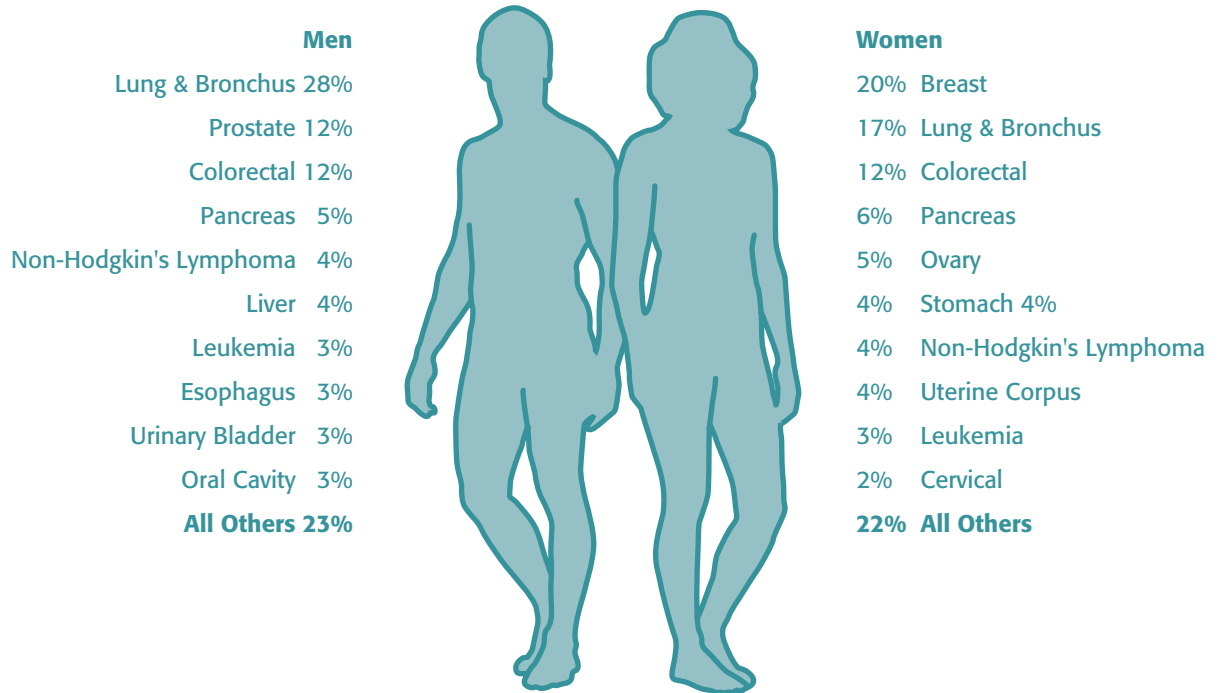
Working together, health providers and other civic leaders—clergy, politicians, business people, and community advocates—can identify where opportunities exist for prevention and treatment. The community's health is the responsibility of not only its caregivers but of its government, its institutions, and its residents. We at SUNY Downstate hope that you will find this report to be informative and compelling. Join us in our continuing fight against cancer.

John C. LaRosa, M.D.
President

CANCER DEATHS

Percent of Deaths for Specific Cancers by Sex in Brooklyn 1993–1997

Lung cancer is the leading cause of cancer deaths among men and the second leading cause among women. Nationally, lung cancer kills more women than any other cancer. In Brooklyn, however, breast cancer is the leading cause of female cancer deaths. The third and fourth leading causes of cancer deaths, colorectal and pancreatic cancer, occur at the same rate in both men and women. This pattern is similar among all racial and ethnic groups.

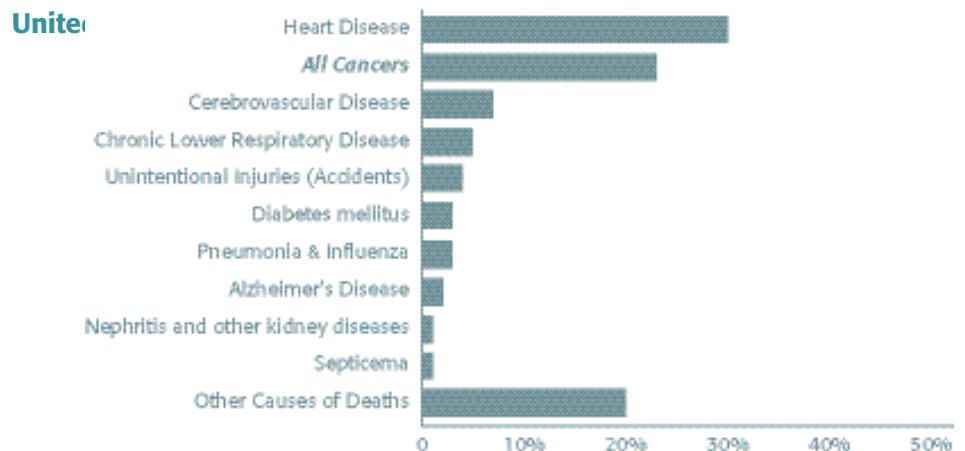
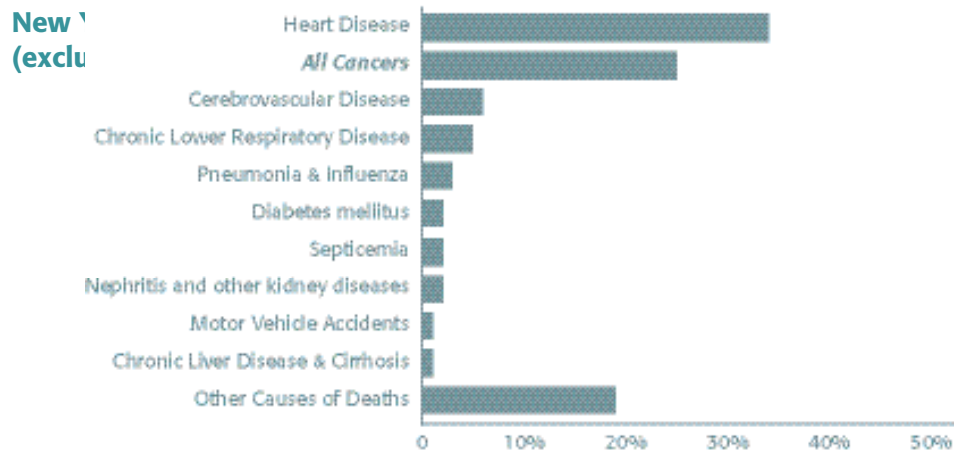
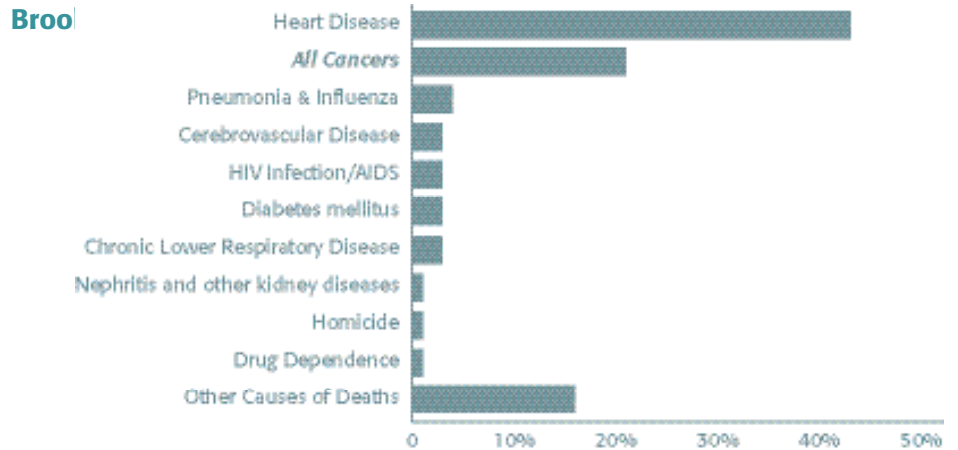


Source: Cancer Registry Report, New York State Department of Health, 2001

Note: Average annual distribution of cancer deaths by sex in Brooklyn (1993-1997)

Ten Leading Causes of Death, 1999

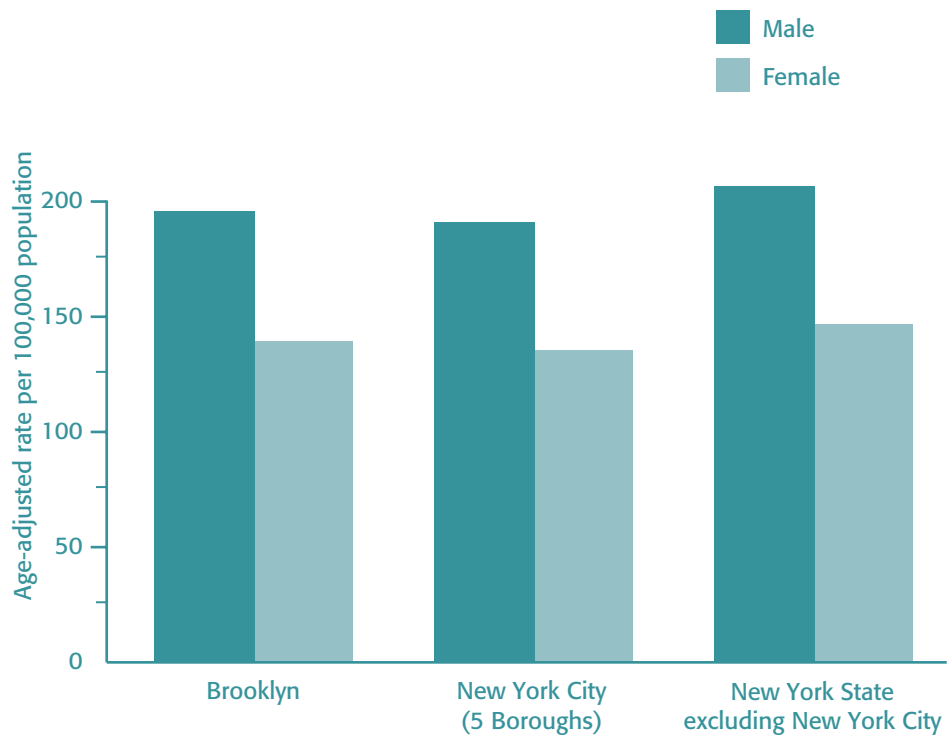
In Brooklyn, New York State, and the United States, cancer is the second leading cause of death—approximately 1 out of every 4 to 5 people will die of a cancer-related diagnosis. This is true for both men and women across all racial and ethnic groups. In Brooklyn and New York City over a third of cancer deaths will be due to lung or colorectal cancers—cancers for which the number of deaths could be reduced through personal action such as smoking reduction and early colon screening. The number of deaths due to cancers (also known as malignant neoplasms) is exceeded only by the number due to heart disease. Both diseases are an ongoing concern in our borough.



Sources: 1999 Vital Statistics Report of New York State; 2001 Health - United States, US Dept of Health & Human Services

Distribution of Age-Adjusted Death Rates for All Cancers by Sex, 1994–1998

Men are more likely to die of cancer than are women. This is true in Brooklyn, New York City, and New York State.

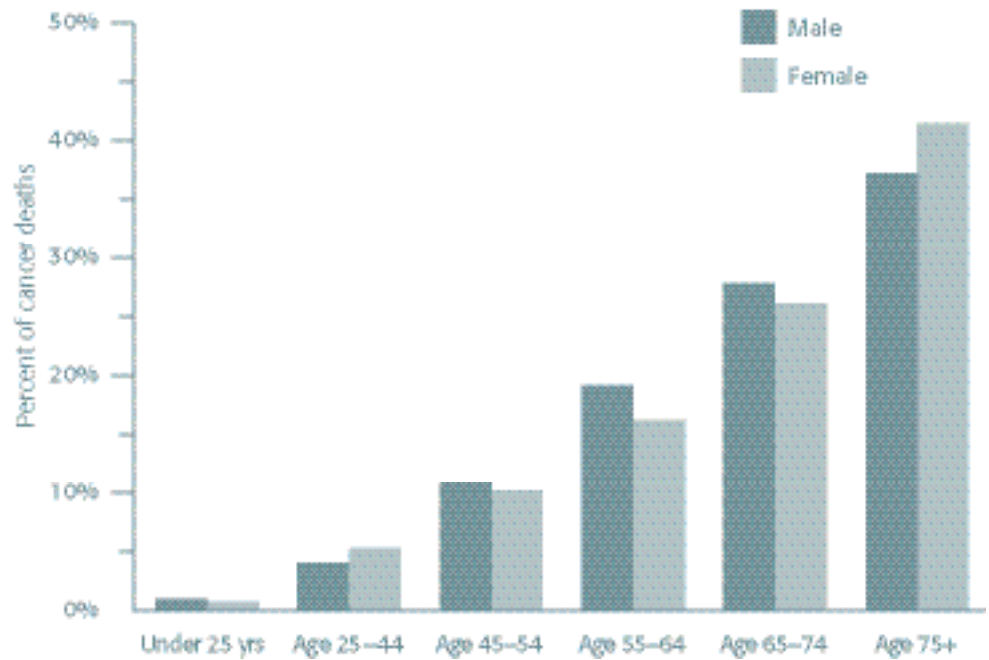


Source: Cancer Registry Report, New York State Department of Health, 2001

Technical Note: The death rate for Brooklyn, NYC and NYS is age-adjusted to the 1970 U.S. Standard Population.

Distribution of Deaths for All Cancers by Sex and Age Group for Brooklyn, 1999

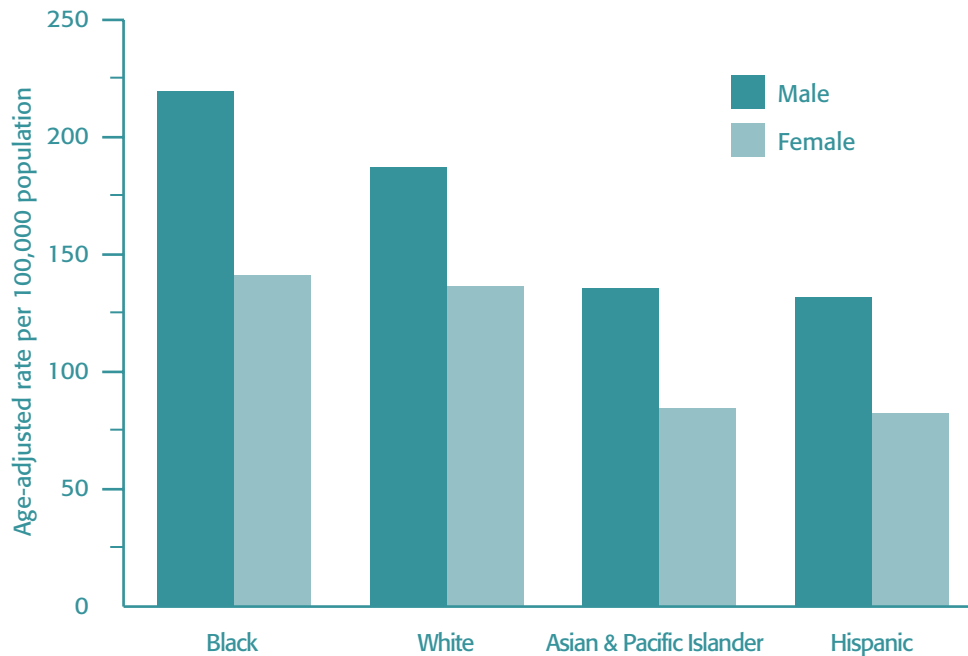
Cancer is primarily a disease of the elderly: 2 out of 3 cancer deaths occur in people age 65 and older, and the risk increases with age. Because Brooklyn is home to more senior citizens than any other borough in the city, the need for cancer services in the borough is especially important. This need will grow in coming decades as the number of elderly residents markedly increases.



Data Source: Death data from Bureau of Biometrics; NYS DOH, 1999

Race/Ethnicity and Age-Adjusted Cancer Death Rates among Men and Women in New York City, 1994–1998

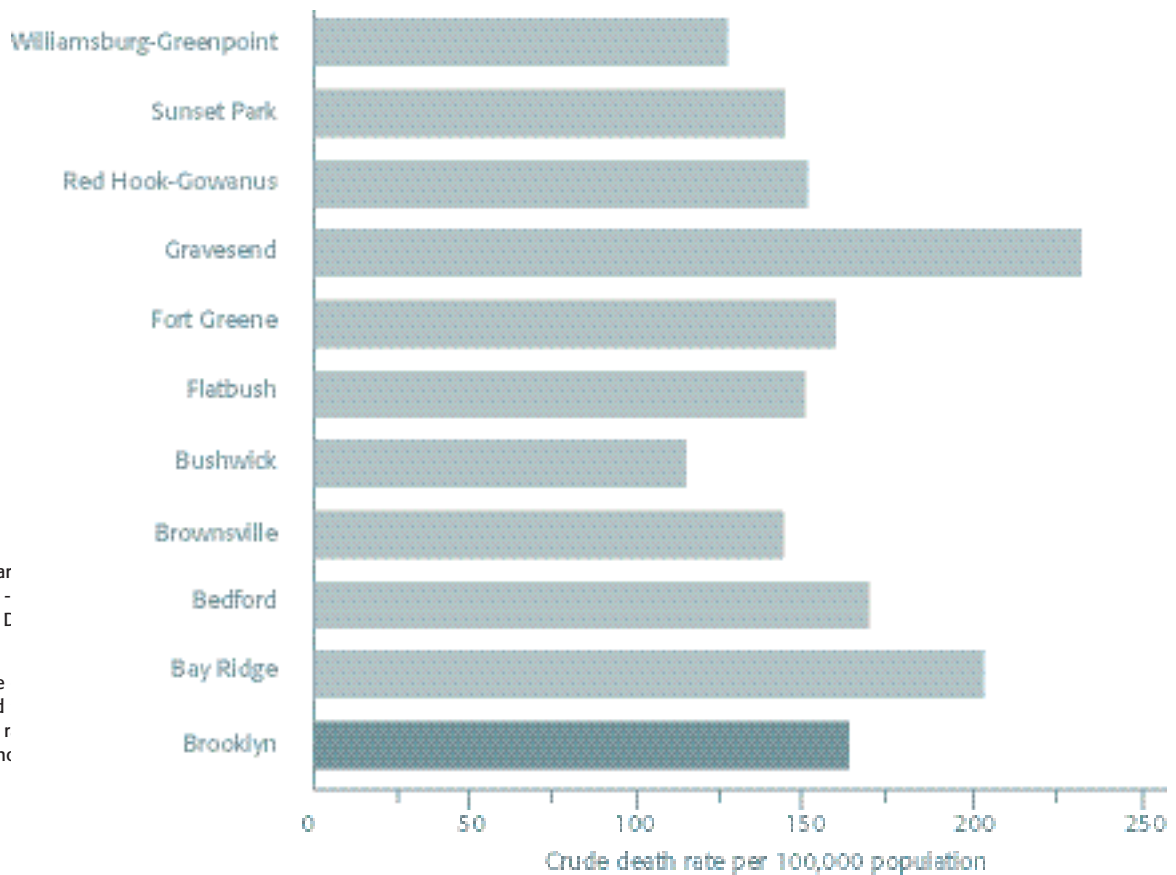
Across all racial and ethnic groups, men are more likely to die of cancer than are women. In New York City, Black men have the highest rate of cancer deaths. Black and White women have similar rates of cancer deaths. Asian-Pacific Islanders and Hispanics have much lower rates of cancer deaths—in both men and women—than Whites or Blacks. Specific data are not available for Brooklyn.



Source: Cancer Registry Report, New York State Department of Health, 2001

Cancer Death Rates by Brooklyn Health Center District, 2000

In Brooklyn, cancer death rates are highest in Gravesend and Bay Ridge and lowest in Bushwick. These disparities reflect, in part, the relative numbers of elderly citizens in each community. In Gravesend, about one in five residents is age 65 or older; whereas in Bushwick, only one in 19 residents is age 65 or older.



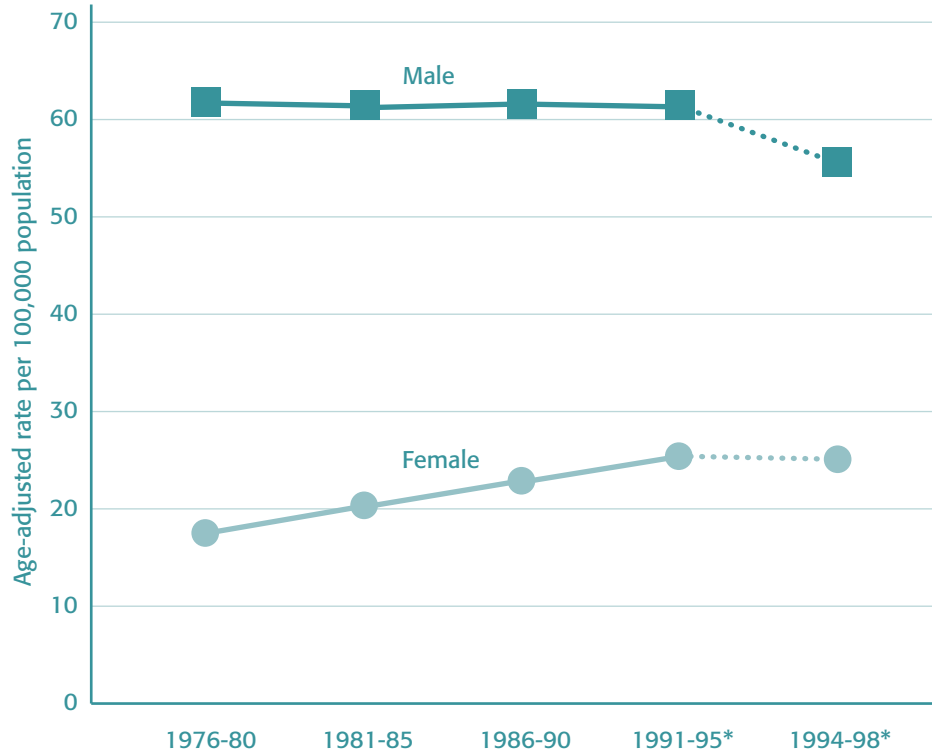
Source: Summary Statistics, 2000 - New York, NYC Health

Note: These are death rates and adjusted death rates (see technical note for explanation).

LUNG CANCER

Age-Adjusted Lung Cancer Death Rates by Sex in Brooklyn, 1976–1998

Nearly 900 Brooklynites die of lung cancer each year. While the number of men of all racial and ethnic groups who succumb to this cancer exceeds the number of women, the death rate among women continues to rise. This is due, in large part, to the increasing amount of smoking by women. The rise in smoking among women occurs not only in Brooklyn but also across the nation.



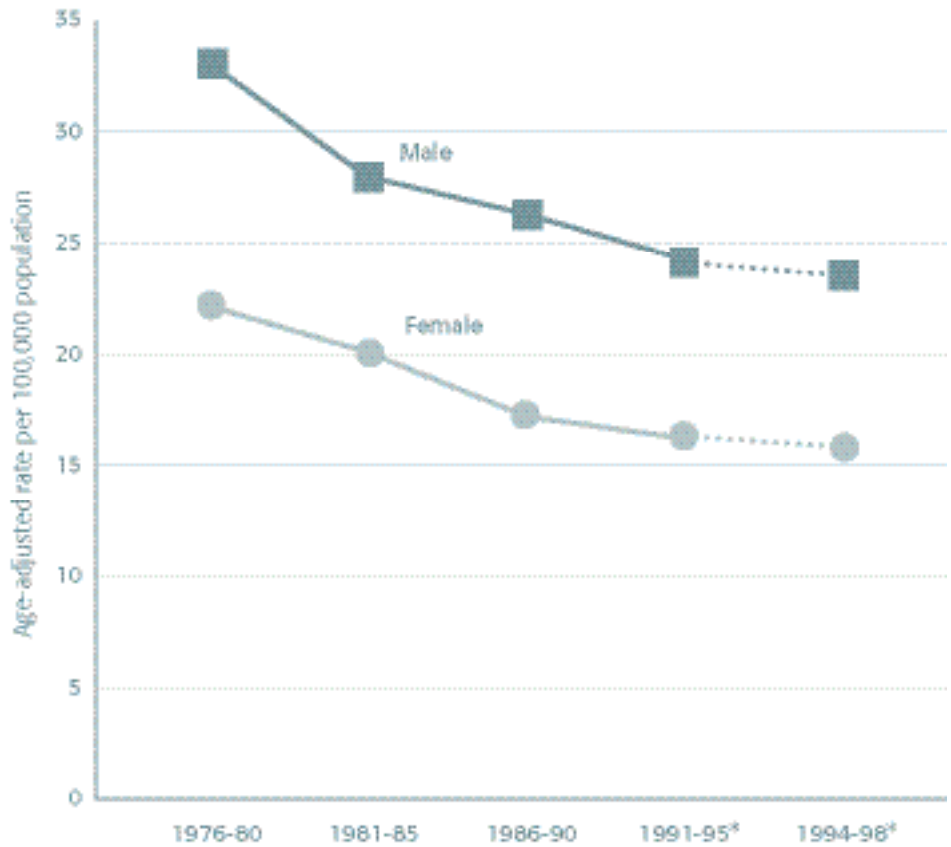
Source: Cancer Registry Report, New York State Department of Health, 2001

*Note: The reporting periods 1991–95 and 1994–98 overlap by two years.

COLORECTAL CANCER

Age-Adjusted Colorectal Cancer Death Rates by Sex in Brooklyn, 1976–1998

Reflecting a national trend, the death rate from colorectal cancer has declined among both men and women living in Brooklyn. Nevertheless, colorectal cancer still kills more than 500 Brooklynites each year.



Source: Cancer Registry Report, New York State Department of Health, 2001

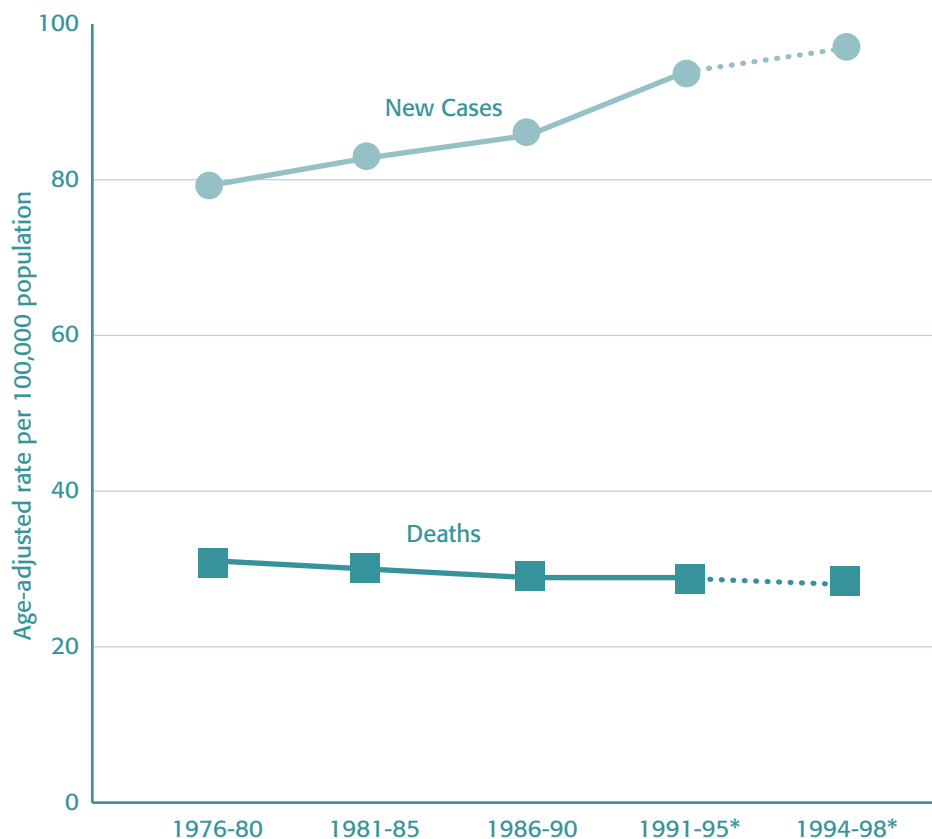
*Note: The reporting periods 1991–95 and 1994–98 overlap by two years.

BREAST CANCER

Age-Adjusted Breast Cancer Death Rates and Age-Adjusted Rates of New Breast Cancer Cases in Brooklyn, 1976 – 1998

Since 1976, the rate of diagnosis of new breast cancer cases in Brooklyn has risen steadily. This may reflect that women in the borough now have greater access to screenings and that more breast cancer is being detected. It may also reflect that the population in the borough, like the rest of the nation, is aging.

While the rate of new cases has been rising, the death rate from breast cancer has fallen slightly, to about 400 a year, in Brooklyn. This is a result of better treatment and earlier detection. Yet, according to the Centers for Disease Control's Behavioral Risk Factors Surveillance System (BRFSS), only 71 percent of Brooklyn women 40 years and older have had a mammogram within the last two years. Mammography screening is very important to all women, yet poor women are far less likely to be screened than other women.

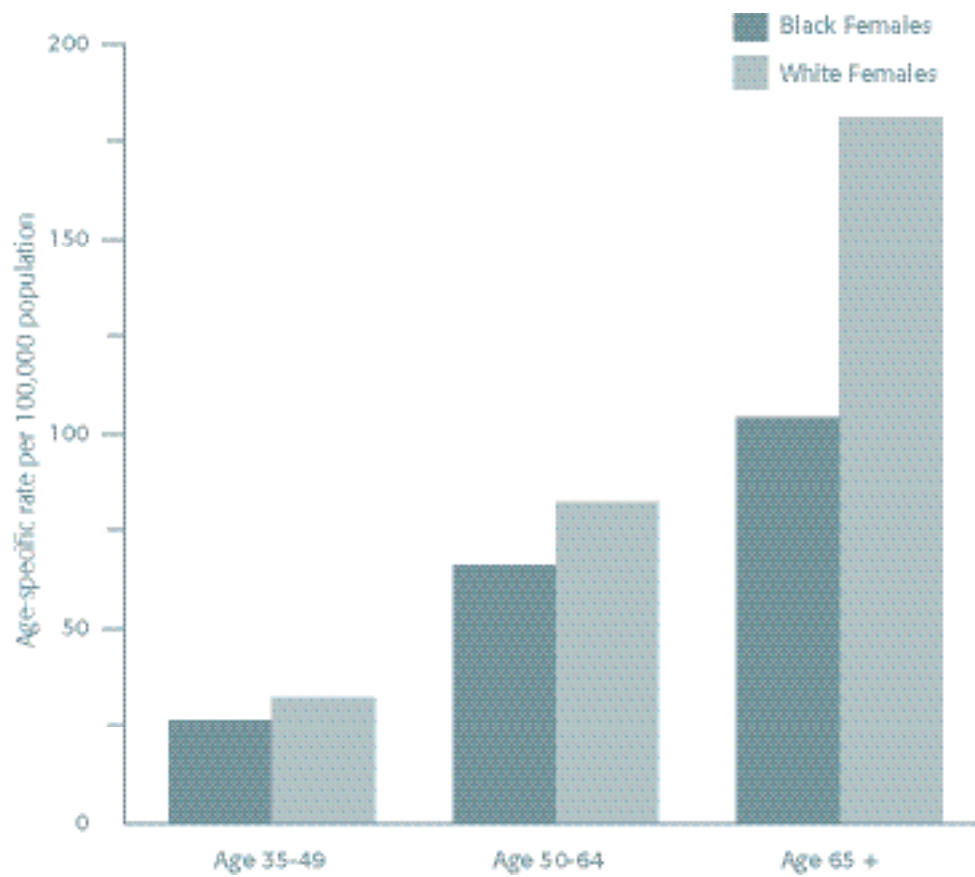


Source: Cancer Registry Report, New York State Department of Health

*Note: The reporting periods 1991-95 and 1994-98 overlap by two years.

Breast Cancer Death Rates by Age Group for White and Black Women in Brooklyn, 1993–1997

For all women, the risk of breast cancer increases with age. Early diagnosis is essential to bring Brooklyn’s breast cancer death rate of 28.9 per 100,000 persons to the *Healthy People 2010* goal of 22.3.



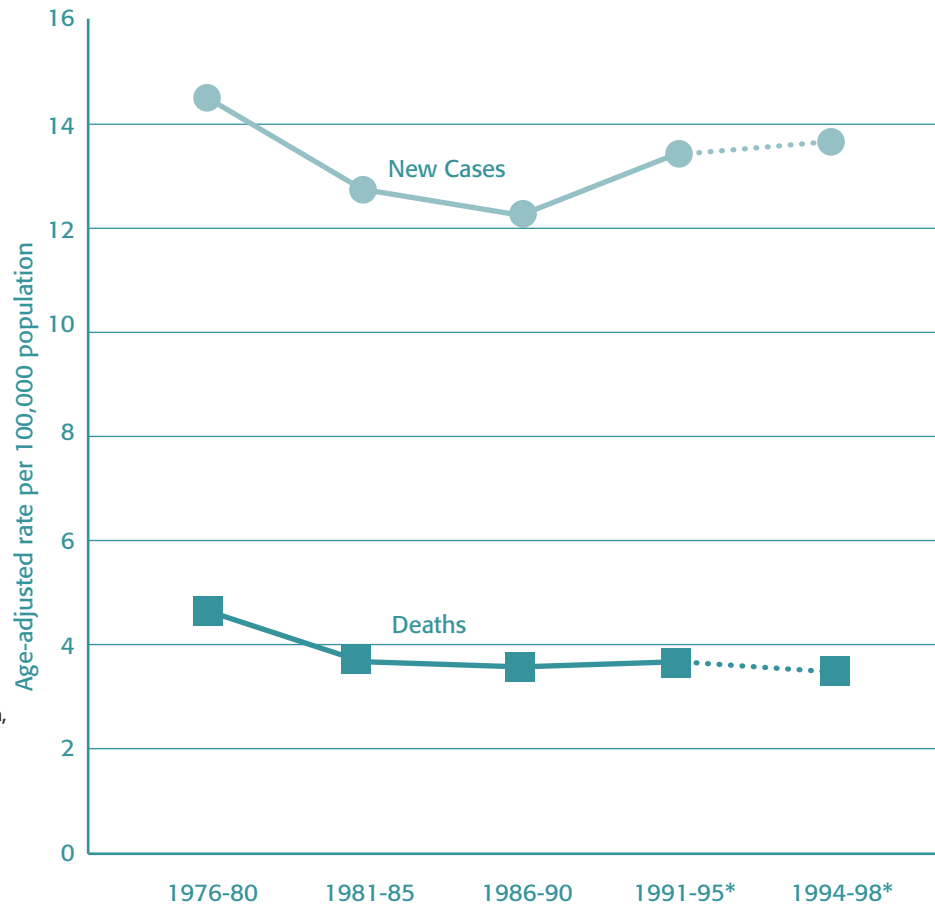
Data Source: Cancer Registry, New York State Dept of Health, 1993 - 2001

Note: The number of deaths for Asian and Pacific Islander and other races was too small for calculation purposes.

CERVICAL CANCER

Age-Adjusted Cervical Cancer Death Rates and Age-Adjusted Rates of New Cervical Cancer Cases in Brooklyn, 1976–1998

Each year about 50 women living in Brooklyn die of cervical cancer. Even though this disease is highly preventable, Brooklyn women are at a slightly greater risk of dying of cervical cancer than women living elsewhere in the United States. Pap smear screening and treatment of pre-cancerous lesions can prevent death from cervical cancer. According to the Centers for Disease Control’s Behavioral Risk Factor Surveillance System (BRFSS), 89 percent of Brooklyn women age 18 or older have had a Pap smear.

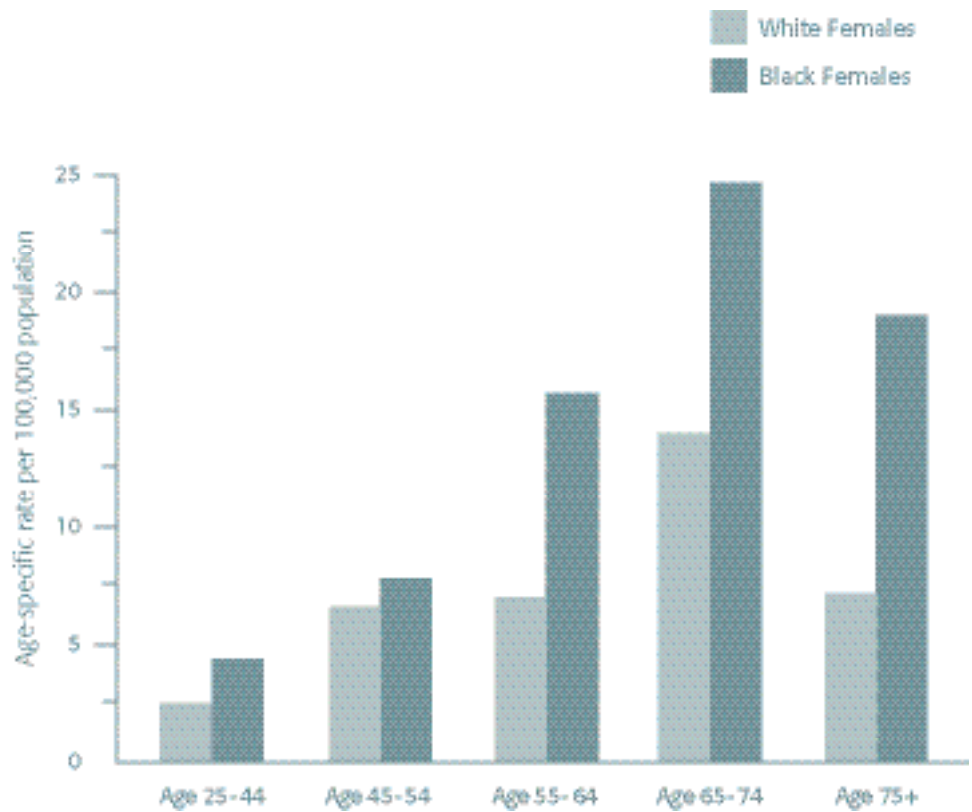


Source: NYS Cancer Registry Report, New York State Department of Health, 2001

*Note: The reporting periods 1991-95 and 1994-98 overlap by two years.

Cervical Cancer Death Rates by Age Group for White and Black Females in Brooklyn, 1999

At every age, cervical cancer kills more Black than White women. Many of these deaths occur before the age of 65, compounding the loss of years from a cancer that is preventable.



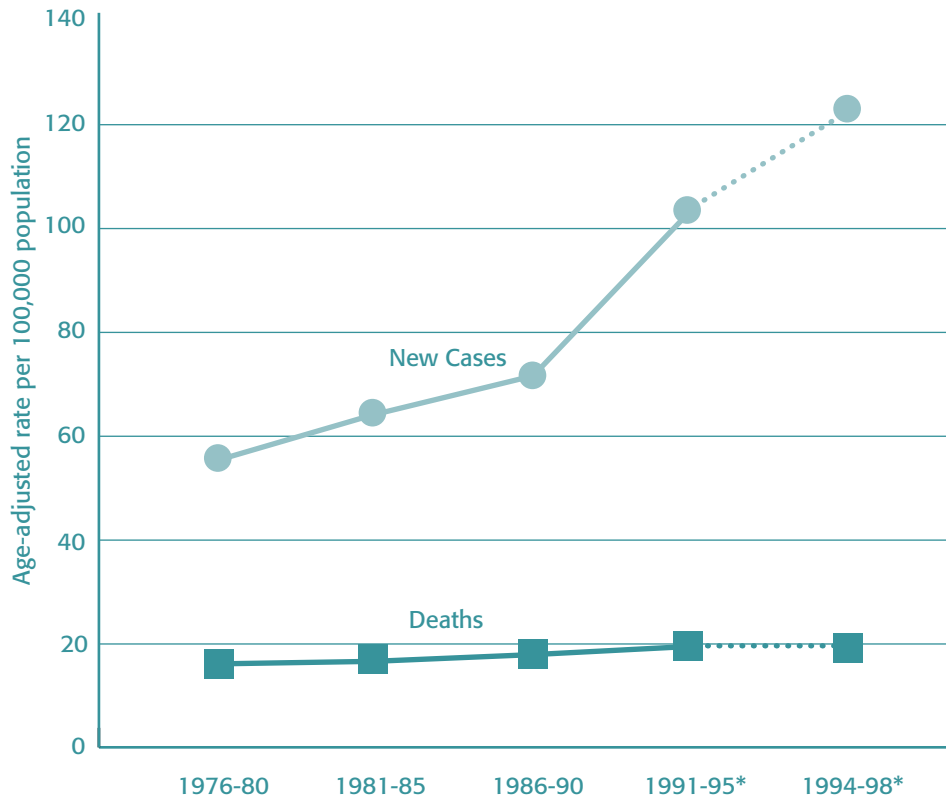
Data Sources: Bureau of Biometrics, New York State Department of Health and U.S. Census 2000

Note: There were no deaths recorded for other races (see technical notes).

PROSTATE CANCER

Age-Adjusted Prostate Cancer Death Rates and Age-Adjusted Rates of New Prostate Cancer Cases in Brooklyn, 1976–1998

The rate of diagnosis of new prostate cancer cases in Brooklyn has risen since 1976 while the death rate has remained constant. The dramatic rise, which began in 1990, is partially due to the introduction of the PSA (Prostate Specific Antigen) blood test. This test (which should be given along with a digital rectal examination) has led to more and earlier diagnoses of prostate cancer. Programs such as National Prostate Cancer Awareness Week and other outreach efforts have increased recognition of the risk in men.

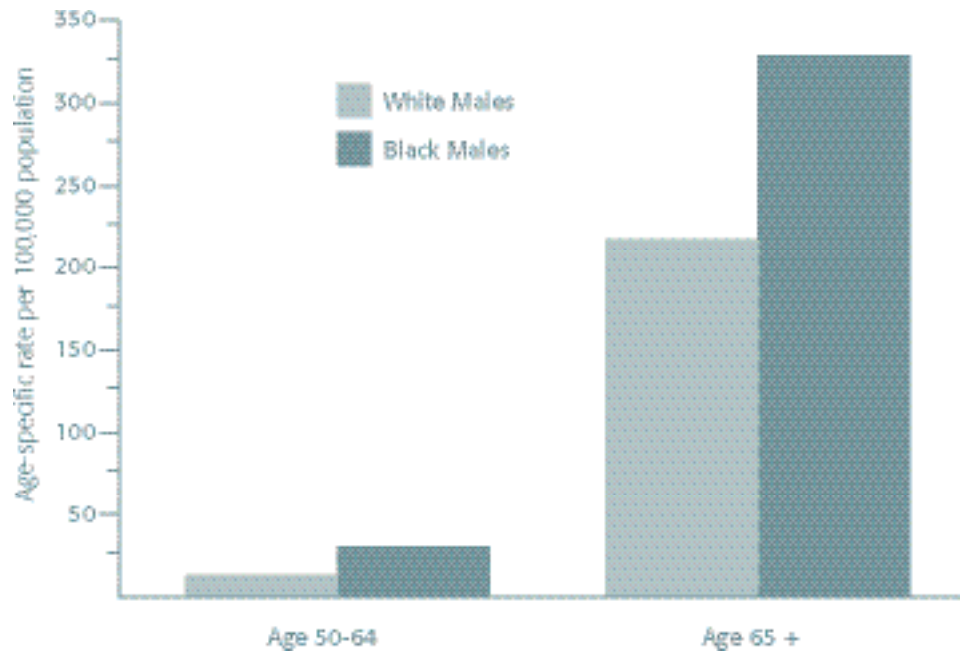


Source: Cancer Registry Report, New York State Department of Health, 2001

*Note: The reporting periods 1991-95 and 1994-98 overlap by two years

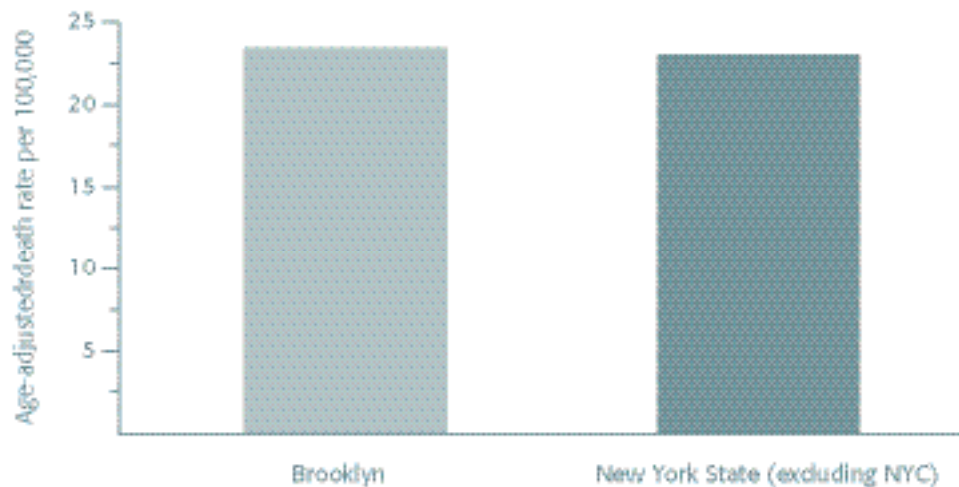
Prostate Cancer Death Rates by Age Group for White and Black Men in Brooklyn, 1993 – 1997

As men grow older, they are more likely to develop prostate cancer. However, at all ages Black men are at greater risk of dying from prostate cancer than White men. After the age of 65, Black men are much more likely to die from prostate cancer than White men. In Brooklyn, the risk for Hispanic men is about the same as the risk for White men.



Age-Adjusted Prostate Cancer Death Rates in Brooklyn and New York State, 1994 – 1998

Despite the higher proportion of Black men in Brooklyn than in New York State (excluding New York City), the overall prostate cancer death rates are almost identical. There is no clear explanation for this. One (of probably many) explanations is that other causes of death, such as heart disease, HIV/AIDS, drug abuse, and violence, claim Black men at an earlier age compared to other men. This leaves fewer Black men to enter the older age groups for whom prostate cancer becomes a greater risk.

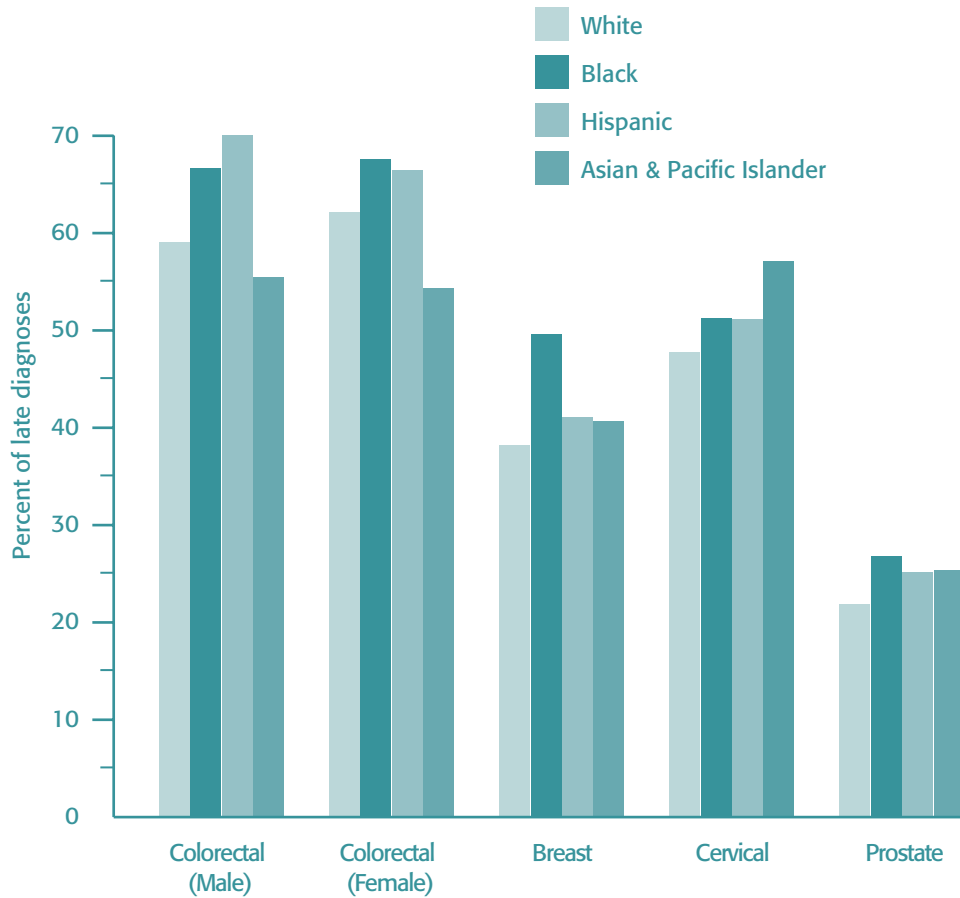


Data Sources: New York State Cancer Registry, NYS DOH, 1993 - 1997

Note: The number of deaths for Asian and Pacific Islander and other races was too small for calculation purposes.

Percentage of Selected Cancers Diagnosed at Late Stage in Brooklyn, 1993 - 1997

The earlier a cancer is detected; the sooner treatment can be started. Such action reduces complications and the risk of death and disability. Unfortunately, many individuals delay screening for a number of reasons: poor access to care, fear, or not understanding the importance of such life-saving measures.



Data Source: Cancer Registry Report, New York State Department of Health, 2001

Facts about screening for the leading causes of cancer deaths in Brooklyn are presented below.

Colorectal Cancer

Colorectal cancer is highly treatable, particularly when caught early. This is true regardless of the race or ethnicity of the patients, although, Whites and Asian-Pacific Islanders are somewhat more likely to be diagnosed earlier. Having a colorectal examination is an important part of early diagnosis.

Breast Cancer

Women of all racial and ethnic groups in Brooklyn are benefiting from earlier detection of breast cancer. Since 1983, White, Hispanic, and Asian-Pacific Islander women have reduced their rate of late detection to below 50 percent. Unfortunately, Black women have not experienced the same degree of improvement: about half of all Black women still learn they have breast cancer only when it has progressed to an advanced stage. This may reflect differences in access to care. In some cases it may be that Black women develop an early, more aggressive form of breast cancer.

Cervical Cancer

The underlying cause of many cervical cancers is the sexually transmitted human papilloma virus (HPV). A vaccine may one day protect women (and men, who can develop penile and anal cancer) from the virus; however, in the meantime, medical and public health professionals must emphasize safer sex practices and routine Pap smears. This is especially important in Brooklyn, where the rate of new cases of cervical cancer is markedly higher than the national average.

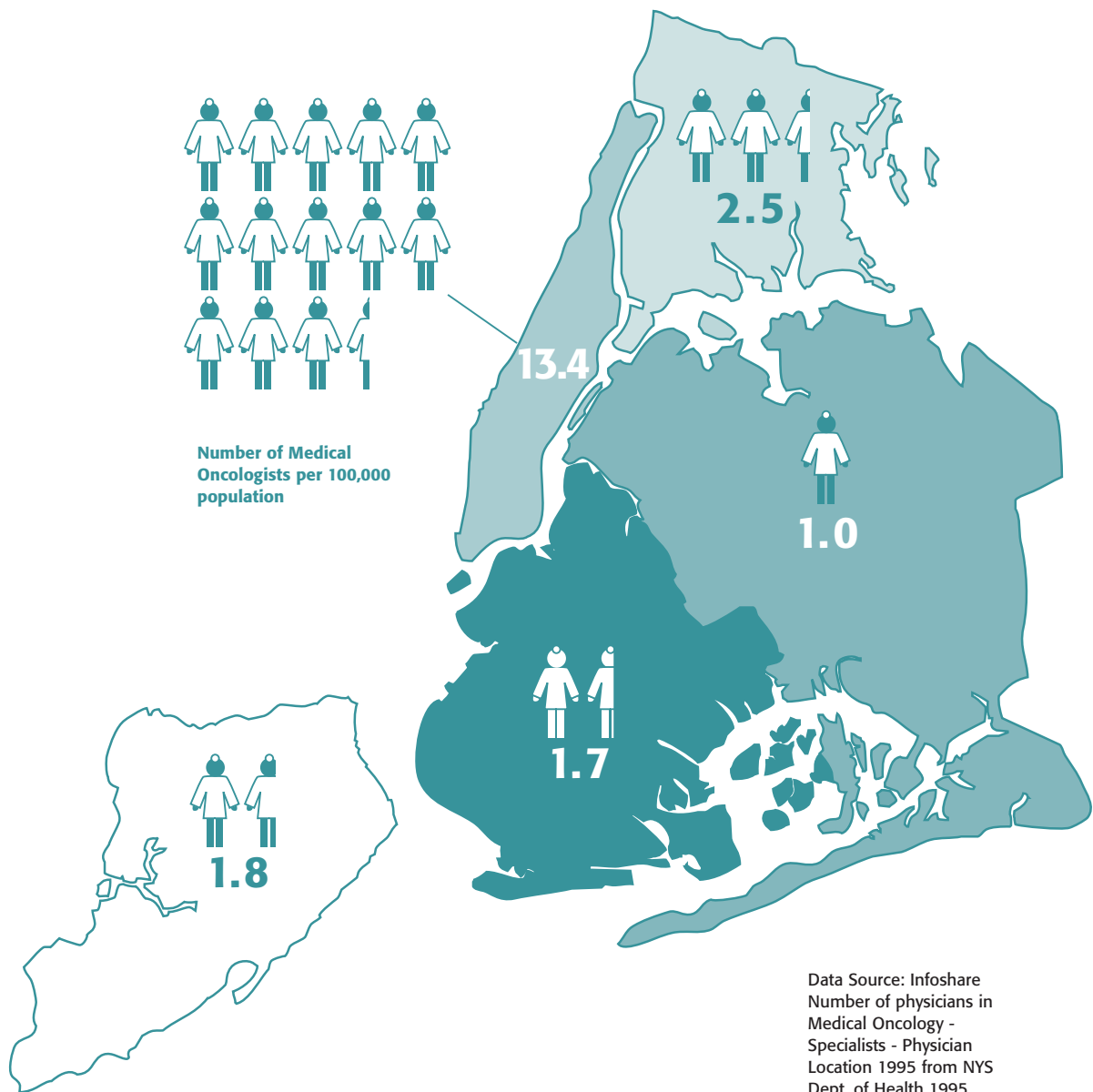
Cervical cancer would be almost entirely preventable if all women received regular Pap smears from the time they become sexually active until well into their mature years. One of the reasons that cervical cancer is often diagnosed at such a late stage is that older women often stop receiving regular gynecologic care once they no longer have a need for family planning. Cervical cancer can have a latency period (delayed period of development of a disease) of up to ten years. If women could be persuaded to have regular Pap smears throughout their lifetime, the number of cervical cancer cases would be vastly reduced.

Prostate Cancer

Men living in Brooklyn today are far more likely to receive an early diagnosis of prostate cancer than they were in 1983. This is true among all racial and ethnic groups; in fact, the disparities in stage of diagnosis that existed among these groups nearly 20 years ago have almost disappeared.

Distribution of Medical Oncologists (Cancer Specialists) in New York City, 1995

Advances in treating cancer have greatly increased survival rates from cancer as well as quality of life for patients. Oncologists (physicians who have been specially trained in treating cancer) are critical for ensuring that patients have access to early diagnosis and the latest treatments. In Brooklyn, however, oncologists are in short supply.



GLOSSARY

Numerical Calculations–Rates

Rate: A calculated number that is used to express the number of events within a group of individuals in a given period of time. For example: 150 events per 100,000 people per year.

Age-adjusted Rate: A calculated number that is used to eliminate the effect of different age distributions when comparing rates across different groups of people.

Age-specific Rate: A calculated number that presents the number of events (deaths or cases) within a specific age or sex/gender group divided by the number of people in the group. For example, 150 deaths per 100,000 persons between the ages of 15 and 25 per year.

Crude Rate: A calculated number that presents the number of events (deaths or cases) from a specific disease divided by the number of people in the group or population. This rate does not take into consideration the effect of age, or any other factors, on the event being measured as age-adjusted rate does.

Selected Cancers

Malignant Neoplasm: This is the medical term for cancer. Neoplasm simply means new growth and malignant means cancerous. Cancer is defined by the presence of abnormal cells which grow without control and can spread throughout the body invading healthy tissue.

Breast Cancer: A cancer that affects the cells of the breasts. This disease affects both women and men, although the majority of the cases are in women.

Cervical Cancer: A cancer that affects the cervix—the lower region of the uterus (womb) that opens into the vagina.

Prostate Cancer: A cancer that affects the cells of the male prostate gland. This gland surrounds the urethra (tube that connects the bladder to the outside) and is located at the base of the bladder. This gland controls the flow of urine from the bladder and produces the fluid that carries the sperm.

Colorectal Cancer: A cancer that affects the cells of the lower part of the gastro-intestinal system—the colon and the rectum

Leukemia: A cancer that affects the bone marrow cells. The disease produces large numbers of abnormal immature cells which overwhelm the bone marrow and enter the blood stream.

Melanoma: A cancer that affects the skin. It is usually associated with overexposure to sunlight, radiation, or other toxic substances.

Hodgkin's Lymphoma (Hodgkin's Disease): A cancer that affects the cells of the lymphoid tissue (e.g., lymph nodes and spleen). It differs from Non-Hodgkin's Lymphoma in that it is diagnosed by the presence of specific cell types. This disease is most commonly found in young adults (15-35 years of age) but can be found in adults over 50 years of age.

Non-Hodgkin's Lymphoma: A cancer that affects the cells of the lymphoid tissue. This type of the disease is most commonly found in adults over the age of 50 and in people who are immunosuppressed (such as individuals with AIDS or those who have received an organ transplant).

Human Papilloma Virus (HPV): A group of 100+ viruses. Over 30 of these viruses can be passed from one person to another through sexual contact. Many HPV cause warts (papillomas) which are non-cancerous tumors. However, some types of HPV are also associated with the development of cancer, especially cervical and anal cancers. HPV is one of the most common sexually transmitted diseases (STDs) in the United States.

Diagnostic Tests

Papanicolaou Test (Pap Smear; Pap Test): A test for cancer of the female genital tract, especially cancer of the cervix. The test can also show inflammation, infection, or abnormal cells. This is a standard test for all women who visit their health care providers.

Prostate Specific Antigen (PSA): A blood test which measures the levels of prostate specific antigen—a protein which is produced by the prostate gland. The amount produced is usually quite low. If the level begins to rise, it means that the person probably has some form of prostate disorder or disease.

Other Terms

Latency Period

The time period a disease appears to be inactive, also a time when a disease may be difficult to diagnose.

Stages of Diagnosis

In order to understand and treat a disease or disorder, the doctor must first make a diagnosis. The earlier the doctor can make the diagnosis—early diagnosis—the better the chances for treatment and recovery. In the early stage, the person may not even be aware that she or he has a disease. The later the diagnosis—late diagnosis—the greater the chances of disability and death. In general, treatment is more effective the earlier a diagnosis is made.

Oncologist

A physician who specializes in the diagnosis and treatment of cancers.

Behavioral Risk Factor Surveillance System (BRFSS)

This is a survey conducted by the federal and state governments every other year which measures people's health and disease-related habits and behaviors.

Technical Notes

Much of the data for this report were provided by the Cancer Registry of New York State at the New York State Department of Health (NYS DOH), usually in the form of aggregated data runs requested by SUNY Downstate Medical Center or published via its New York State Cancer Registry Report. Additional state-wide and local data were provided by the Bureau of Biometrics at the NYS DOH, which annually publishes *The Vital Statistics of New York State, 1999*, a compendium of mortality and health-related conditions reported by cities and counties to the NYS DOH, or by the Office of Vital Statistics, New York City Department of Public Health (NYC DOH), *Summary of Vital Statistics of the City of New York, 1999*. National health information was provided by the annually published report by the National Center for Health Statistics, Department of Health, United States, 2001 with *Health and Aging Chartbook*.

All state, city, and borough age-adjusted data are standardized to the 1970 US standard population. Data for the United States were not included in the charts for reference purposes because the death rates were age- and sex- adjusted and standardized to the 2000 US standard population. As such it is difficult to provide an accurate comparison to state and local age-adjusted death rates.

Age-specific rates and other non-adjusted rates were calculated using the appropriate populations derived from the 2000 US Census. Rates were not calculated for certain populations because the number of deaths reported were too small to provide an accurate depiction of that disease for the given population.

Much of the data provided by the *NYS Cancer Registry Report* is grouped in five-year periods and then averaged out for an annual rate. Several charts in the report contain cancer registry data averaged for the five-year periods from 1976 through 1995, with an additional five-year period (1994–1998) that overlaps by two years with the period from 1991–95. The NYS DOH Cancer Registry has not provided published data for the 1996–2000 period.

Data on medical oncologists were provided by InfoShare, the 1995 Physician Locator File from the New York State Department of Health.