



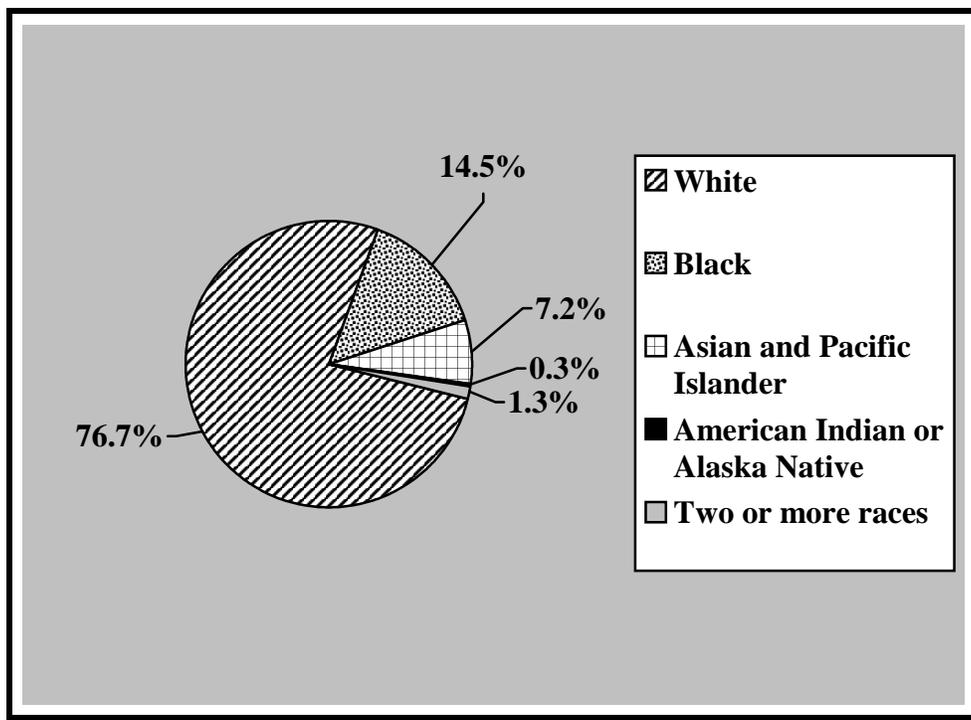
THE BURDEN OF CANCER IN NEW JERSEY

A DEMOGRAPHIC PICTURE OF NEW JERSEY

New Jersey is a geographically small but heavily populated state. The state's population in 2006 was estimated to be over 8.7 million, making it the 11th highest in the nation.¹ According to 2006 population estimates, New Jersey is the most densely populated state, with 1,184 persons per square mile.²

Figure 1 demonstrates the racial composition of New Jersey. According to 2005 U.S. Census Bureau estimates, populations of all races are increasing in New Jersey. Approximately 15.2% of the population was Hispanic of any race, which accounts for 69% of New Jersey's total population growth from 2000 to 2005.¹

Figure 1. Breakdown of New Jersey Population by Race, Based on 2005 U.S. Census Bureau Estimates¹



Estimates based on the 2005 American Community Survey reveal that New Jersey's population is also older than the national average, with a median age of 38 years as compared to 36.4 years for the nation.² In 2005, the percentage of the population aged 65 and older was estimated to be 13.0% in New Jersey and 12.4% in the nation as a whole.³ Similar to the national trend, the oldest age group (85 years and over) is growing at the fastest rate, increasing by 24% in New Jersey and 19% in the nation from 2000 to 2005.^{4,5}



Estimates from the 2005 American Community Survey demonstrate that New Jersey ranks first in the nation for median household income (\$61,672). It follows, then, that the percentage of New Jersey's population living in poverty is much lower than in the nation as a whole. According to the 2005 American Community Survey, 8.7% of New Jerseyans had incomes below the poverty level, compared to 13.3% nationally.⁶

Additionally, adult New Jerseyans exceed national estimates of average educational attainment. In 2005, 86.3% of state residents aged 25 and over had completed high school, compared to 84.2% nationally; 34.2% had completed a bachelor's degree, compared to 27.2% nationally; and 12.5% had completed an advanced degree, compared to 10.0% nationally.⁶

CANCER INCIDENCE IN NEW JERSEY

In 2004*, the data reported to the New Jersey State Cancer Registry (NJSCR) indicate that 45,001 cases of invasive cancer were diagnosed among New Jersey residents. Males (all races combined) had a rate of 567.1 per 100,000** compared to females (all races combined), who had a rate of 439.3 per 100,000** (Figure 2). The American Cancer Society predicts that in 2007, the number of new cancer cases among New Jersey residents will increase to 49,370.⁷ In 2004, approximately 51% of cancers were diagnosed in the early stages (in situ and local); this is about the same percentage as in 2000 (Figure 3). Patterns from the NJSCR statistics for age, race, and gender are highlighted in the paragraphs below. Additional incidence data can be viewed on the New Jersey Department of Health and Senior Services (NJDHSS) website, <http://www.state.nj.us/health>, and can also be found in previously issued NJSCR cancer incidence reports.

Males. Data from the NJSCR demonstrate that the overall cancer incidence rate for New Jersey males has declined from 630.2 per 100,000 in 1995 to 567.1 per 100,000 in 2004. While white males mirrored the overall trend for New Jersey males, black males have seen a decline since 1995. Lung cancer incidence rates (all races combined) were stable from 1995 through 1998, and then a decrease was seen from 1999 to 2004*. The same trend is seen in black and white males diagnosed with lung cancer, although the incidence rates are higher among black males in New Jersey. Overall, New Jersey prostate cancer rates (all races combined) were 188.4 per 100,000** in 1995 compared to 157.7 per 100,000 in 2004*. Malignant melanoma of the skin increased from 16.6 per 100,000** in 1995 to 27.2 per 100,000** in 2004*.

Cancer incidence increases with age. According to 1999–2004 data, men in the 80–84 age group have the highest incidence rate of cancer. White males mimic this trend, while black males have the highest cancer incidence rate in the 75–79 age group.

In 2004*, 54% of the new cancer cases in New Jersey males were diagnosed in the early stages (in situ and local), an increase from 42% in 1995. Cancers are being diagnosed earlier among white men in New Jersey than among black men.

* Incidence rates for the year 2004 data from the New Jersey State Cancer Registry are preliminary.

** Rates are per 100,000 and age-adjusted to the 2000 U.S. (5-year groups) standard.



Females. Data from the NJSCR demonstrate that during the years 1995 through 2004*, the overall cancer incidence rate for New Jersey females increased gradually through 1998 and then generally declined through 2004. The incidence rates for both white and black females in New Jersey mimic the trends seen in overall cancer incidence rates. Incidence rates for lung cancer appear stable during the years 1995 to 2004* for all races combined. Declines continued to be seen for invasive cervical cancer, especially among black women. Invasive breast cancer incidence rates rose slightly through 1997, and then began decreasing. Incidence rates for malignant melanoma of the skin increased from 10.5 per 100,000** in 1995 to 15.9 per 100,000** in 2004*.

Similar to the rates for New Jersey males, the incidence rates for New Jersey females increase with age. Women in the 80–84 age group have the highest incidence rate of cancer.

In 2004*, 50.4% of the new cancer cases in New Jersey females were diagnosed in the early stages (in situ and local), an increase from 44% in 1995. Cancers are being diagnosed earlier in white women in New Jersey than in black women.

NEW JERSEY COMPARED TO THE NATION, 1995–2004

Historically, New Jersey rates have been representative of the Northeast region, which tends to have higher cancer incidence rates than the U.S. as a whole (Figure 2).

For males all races combined, total cancer incidence rates were higher in New Jersey than in the U.S. during the period 1995 to 2004. During the same time period, the incidence rates for colorectal and prostate cancers were higher for New Jersey men than for U.S. men. Melanoma incidence rates for the U.S. and New Jersey were similar until 2001–2004, when the New Jersey incidence rate rose above the U.S. rate. Since 1995 the total cancer incidence rates for both white and black males in New Jersey have been higher than the national incidence rates.

For females, New Jersey had higher incidence rates than did the U.S. during the period 1995 through 2004 for total cancers and colorectal cancer. In New Jersey, females had higher breast cancer rates than in the U.S., although the rates in 1998–1999 were more similar. Melanoma incidence rates for New Jersey females were lower than for U.S. females until 2000–2003, when the rates were similar. Total cancer incidence rates among white females in New Jersey have consistently been higher than the U.S. incidence rates for white females. Black women in New Jersey also generally have higher incidence rates when compared to black women in the U.S.

* Incidence rates for the year 2004 data from the New Jersey State Cancer Registry are preliminary.

** Rates are per 100,000 and age-adjusted to the 2000 U.S. (5-year groups) standard.



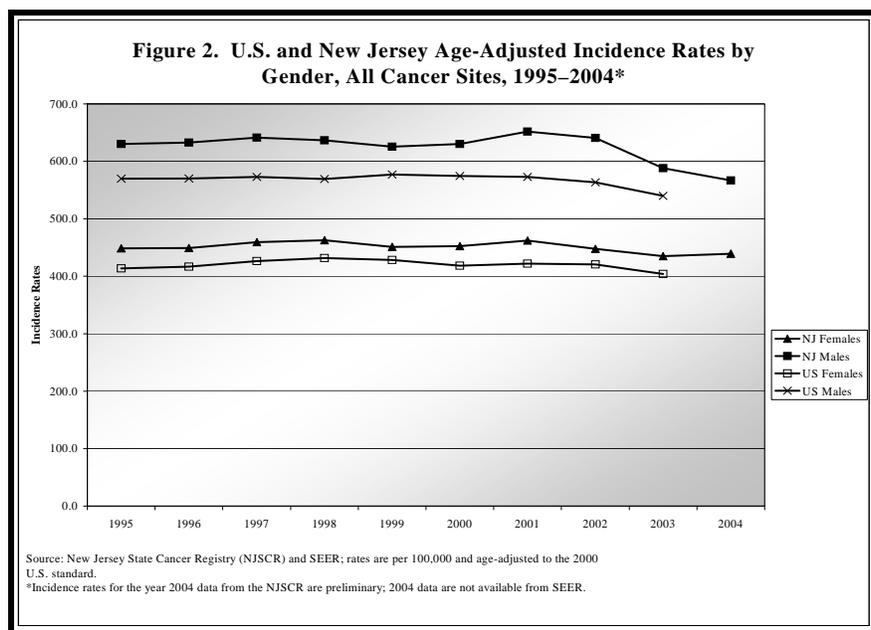
CANCER AMONG OLDER ADULTS IN NEW JERSEY

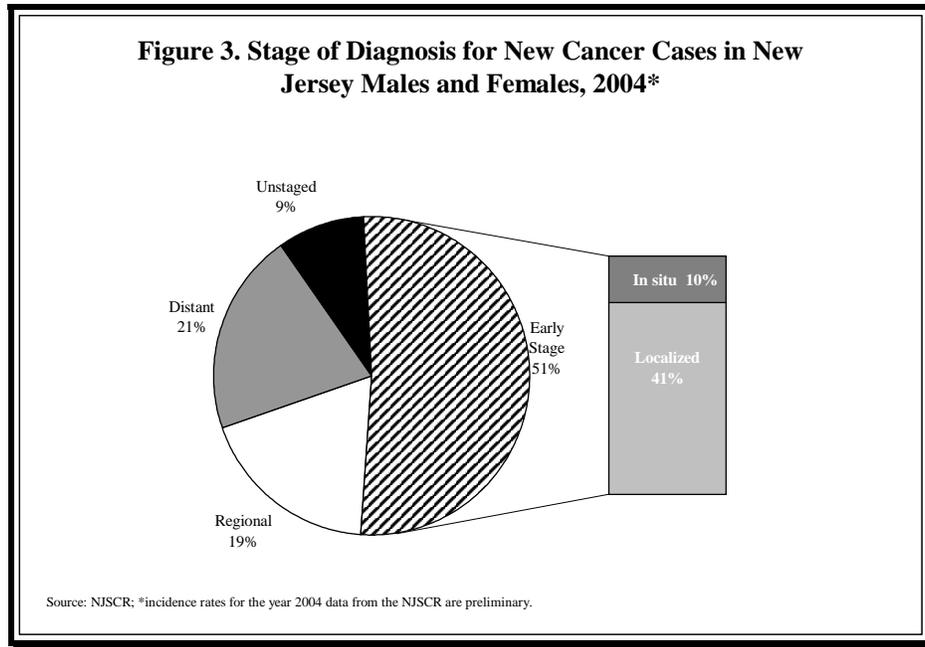
According to the 2005 American Community Survey, about 13.0% or 1.1 million people in New Jersey are aged 65 and older.² In New Jersey and nationally, over one-half of all newly diagnosed cancers occur in adults aged 65 and older. In New Jersey alone, 58.5% of those who are newly diagnosed with cancer are aged 65 and older and, therefore, this age group bears the greatest burden of cancer.⁸

In New Jersey, both incidence and mortality rates for total cancer have been higher for each successive age group. In recent years, incidence rates in the oldest old (age 85 and older) have converged toward the older old (age 75 to 84 years) for both men and women. Incidence and mortality rates vary greatly by gender among older adults. Incidence rates for older men are higher than rates for older women, especially for men aged 75 and older. Mortality rates for older men are also higher than rates for older women and share a similar pattern over time.⁹

Among older adults in New Jersey, favorable patterns for stage at diagnosis are seen for female breast cancer, prostate cancer, and melanoma of the skin, which may be the result of effective screening. Less favorable patterns for stage at diagnosis are seen for cervical, colorectal, and oral and oropharyngeal cancers. Better screening efforts among older adults and their physicians may increase the detection of these cancers at an earlier stage.⁹

With the rising number and proportion of older adults with cancer in New Jersey over the coming decades, attention should be paid to interventions that will decrease the burden of cancer among adults aged 65 and older. There are many opportunities for research to understand the issues of early diagnosis, treatment, and support of older adults with cancer. It appears that chronological age by itself is less a factor in determining patient outcomes than other related factors, such as functional status, comorbidities, and overall health status. Because of the heterogeneity in health and economic status of our aging population, comprehensive assessments and individualized management may be of significant value in improving survival of and quality of life in older adults with cancer.⁹





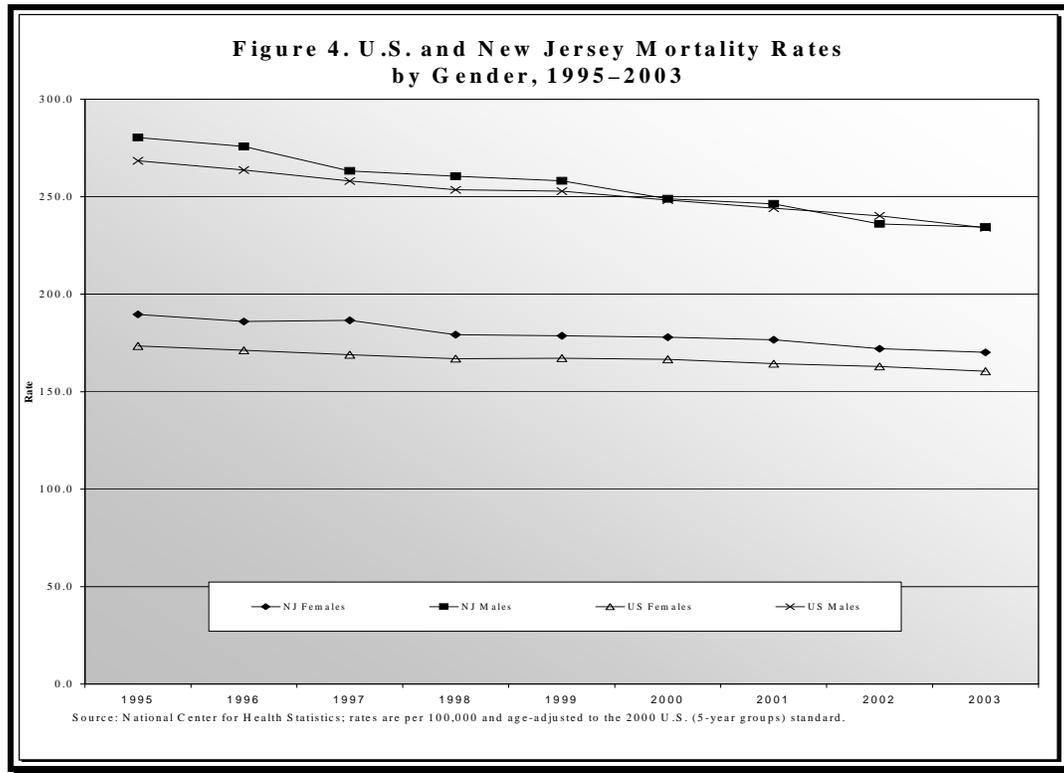
CANCER MORTALITY IN NEW JERSEY

Cancer is the second leading cause of death in New Jersey.¹⁰ According to data from the National Center for Health Statistics, cancer mortality rates in New Jersey have been declining since 1991, and the decline has been more rapid since 1995. There were 17,957 deaths in 2003 for which cancer was designated on the death certificates as the underlying cause. The mortality rate for New Jersey was 234.4 per 100,000** for males (all races combined) and 170.2 per 100,000** for females (all races combined) in 2003.¹¹

In New Jersey, from 1995–2003, cancer mortality rates for males (all races combined) were generally higher than the rates for the U.S. (Figure 4). The mortality rates for white males were higher in New Jersey than in the U.S. from 1995–1999, but then fell lower than the U.S. rate from 2000–2003; the mortality rates for black males in New Jersey were generally lower than the U.S. rates for black males from 1995–2003. For the same time period, New Jersey cancer mortality rates for females (all races combined) and white females were higher than the mortality rates for the U.S. Although mortality rates for black females in New Jersey were higher than the U.S. rates, in recent years the rates have become similar.^{11,12}

Although life expectancy in the United States has been increasing, blacks live shorter lives than whites. This earlier mortality tends to hold across gender, age, and disease subgroups.¹³ Potential explanations for this disparity fall into two broad categories: environmental/societal/behavioral (which are potentially subject to intervention) and biological/genetic. The latter factors, some of which may vary among different ethnic/racial groups, were long considered immutable. However, given evolving genetic knowledge, the genome holds the promise that, if used ethically, it may facilitate improved screening, earlier diagnosis and intervention, and the tailoring of specific therapies to improve prognosis.

**Rates are per 100,000 and age-adjusted to the 2000 U.S. population standard.



SURVIVAL AFTER CANCER IS DIAGNOSED

In general, the New Jersey five-year relative cancer survival rates were similar to the U.S. rates for the diagnosis years 1994–1997. For all cancers combined, the New Jersey five-year relative survival rate was 61%, while the U.S. rate was higher at 64%. The New Jersey survival rates were very high for specific cancers such as prostate cancer (98%), thyroid cancer (94%), female breast cancer (85%), and Hodgkin’s lymphoma (85%). Similar to the U.S. rates, the five-year survival rates in New Jersey were very low for pancreatic cancer (6%), liver cancer (7%), esophageal cancer (13%), and lung cancer (14.5%).

Disparities in survival rates exist by gender and race. White men in New Jersey had substantially higher five-year relative survival rates for all cancers combined compared to black men (63% versus 54%, respectively); as did white women compared to black women (60% versus 51%, respectively). Black men had lower survival rates than did white men for each specific cancer type except myeloma and brain. Black women had lower survival rates than did white women for each specific cancer type except myeloma, brain, stomach, liver, and pancreas.

For the six most common cancers diagnosed among New Jersey residents in 1994–1997 (female breast, cervical, colorectal, lung, melanoma of the skin, and prostate), the five-year relative survival rates were much higher for local-stage cancers than for regional- or distant-stage cancers. The survival rates for these cancers were between 80% and 100% for local-stage cancers (except for lung cancer) and under 30% for distant-stage cancers. Over the past 20 years, the five-year relative survival rates have



improved, especially for cancers diagnosed at the local and regional stages. However, disparities continue to exist between blacks and whites and, to a lesser extent, between men and women.¹⁴

It has been estimated that on January 1, 2003, there were nearly 334,000 people living in New Jersey who had been diagnosed with cancer; about 149,000 men and over 185,000 women. They represent 3.9% of the total population. About 87% of the 334,000 people were white, and about 8.5% were black. The types of cancer that contributed most to the cancer prevalence among men were prostate (61,483), colorectal (18,468), bladder (13,499), melanoma of the skin (7,546), and non-Hodgkin's lymphoma (5,868). Among women, the types of cancer that contributed most to cancer prevalence were breast (72,595), colorectal (20,041), endometrial (17,395), cervical (9,184), and melanoma of the skin (7,940).¹⁵

More than 10 million cancer survivors live in the United States today—three times the number who were alive 30 years ago. Many survivors and their families experience long-term physical, emotional, and practical needs resulting from cancer that affect their quality of life. Advances in treatment options and early detection have played roles in allowing those with cancer to lead full lives during and after treatment. The cancer “survivorship” concept includes the physical, emotional, and practical issues that arise during and after a cancer diagnosis.¹⁶ Strategies to improve survivorship have been incorporated across the *Plan*.

REDUCING THE CANCER BURDEN

The goal of cancer control and of this *Plan* is to reduce the burden of cancer for all New Jersey residents. Many types or forms of cancer can be prevented. It is critically important to provide New Jerseyans with the information they need to avoid risky behaviors that increase their chances of developing cancer. Other cancers can be detected early and ameliorated, controlled, or cured. Data about these kinds of cancer and the potential to survive them once detected must be disseminated broadly. Access to high-quality cancer screening and state-of-the-art treatment must be available. Finally, even for cancers for which a cure has not been found, there are certain life-prolonging, life-enhancing, and palliative care measures, including pain control, to which New Jersey's residents deserve access. These are the aims of this *Plan* and will, once achieved, reduce the burden of cancer in New Jersey.

Strategies addressing specific basic research are not addressed in the *Plan*. However, the respective chapters propose ways to nurture and increase support for these efforts. New Jersey is rich in resources for basic research through the biopharmaceutical industry, academic centers of excellence, innovative research institutes, and the work of the New Jersey Commission on Cancer Research. Through the efforts of these dedicated scientists in our state, new approaches and therapies are realized that pave the way to understanding how cells and organisms function normally and what goes wrong in the development of cancer.



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