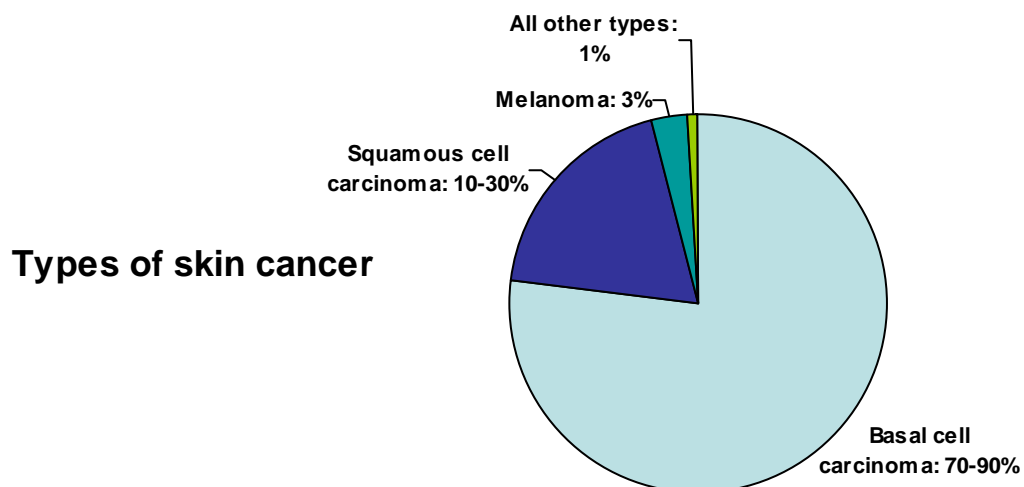


SKIN CANCER IN NEW YORK STATE

About Skin Cancer

Skin cancer is a disease in which malignant cells (that is, those that invade surrounding tissue) form in the tissue of the skin. Skin cancer is the most common type of cancer in the United States. In fact, about half of all cancers are skin cancers.¹⁻³ According to the American Cancer Society (ACS), more than one million Americans develop skin cancer each year.¹⁻² This means that approximately one of every five Americans develops skin cancer in his or her lifetime. Additionally, research shows that skin cancer incidence is increasing.⁴⁻¹¹

Skin cancer begins in the cells of the outer layer of the skin, called the epidermis. There are several types of cells in the epidermis; thus there are several different types of skin cancer. The two main types of cells are *squamous*, which form the outermost layer, and *basal*, which make up the lower layer. The lower layer also has *melanocytes*, which give skin its color. Skin cancers are usually classified based on the type of cell from which the cancer originates. The three most common skin cancers are *basal cell carcinoma*, *squamous cell carcinoma*, and *melanoma*. Melanoma usually begins in a mole. Because melanomas tend to spread rapidly to other organs, they cause the most skin cancer deaths, even though they currently account for only 3 percent of skin cancer. Other types of skin cancer that are less common include Kaposi sarcoma, adnexal tumors, Merkel cell carcinoma, and cutaneous lymphoma.



Risk Factors for Skin Cancer

The exact cause of skin cancer is not known, but we do know that certain risk factors are linked to the disease. The known risk factors for basal cell carcinoma, squamous cell carcinoma, and melanoma are similar.¹ The strongest risk factor for skin cancer is exposure to ultraviolet (UV) light from the sun or from artificial light in tanning booths. Sunburned or tanned skin is damaged skin.

The risk of skin cancer varies significantly by how susceptible a person is to sunburn. Thus people with skin that burns and freckles easily and those with fair-colored hair and blue eyes have an increased risk of developing skin cancer.

Based on race and ethnicity, then, the skin cancer rate among whites is much higher than among blacks, Asians, and Hispanics. Further, risk is higher in areas of the world with high ultraviolet radiation from the sun. People in these areas might also be at higher risk because they spend more time in the sun as part of their jobs or for recreation. Worldwide, the highest rates of skin cancer are observed among the fair-skinned population of Australia.

The other major risk factor for skin cancer is age. Older people are more likely to develop skin cancer because of the cumulative effect of damage to the skin, particularly damage caused by the sun. Thus the risk of developing cancer increases with age, even though the damage caused by the sun starts when a person is young. Most of a person's lifetime skin damage occurs before the age of 18 years. Even when a child's sunburn or tan fades, the damage to cells caused by that burn or tan does not, and the effects cannot be reversed. The damage keeps adding up with each sunburn or tan and may one day result in skin cancer. It is therefore important that both children and adults protect their skin.

Other risk factors for skin cancer include the following:

- Male gender
- Radiation exposure for medical treatment
- Personal or family history of skin cancer

- Reduced immunity
- Exposure to certain chemicals, such as arsenic
- Large or irregular moles

Prevention and Treatment of Skin Cancer

Skin cancer is often preventable. It is important for people to avoid unnecessary unprotected exposure to the sun and artificial sources of ultraviolet light, such as tanning booths or sun lamps. When in the sun, people need to protect themselves by following some simple measures:¹²⁻¹³

- Wearing a wide-brimmed hat and long-sleeved shirts and long pants whenever possible.
- Wearing sunglasses to protect the eyes.
- Applying a "broad-spectrum" sunscreen with a sun protection factor (SPF) rating of at least 15 that can block out 93 percent of UV rays. One ounce of sunscreen is considered the amount needed to completely cover the exposed areas of the body.
- Avoiding direct sun at midday, between 10 a.m. and 4 p.m., when the sun's rays are strongest.
- Using sunscreen and covering skin in order to get protection even on cloudy days, because clouds do not block most UV rays.

The three most common types of skin cancer are also curable, if diagnosed at an early stage. Basal cell carcinomas generally grow slowly and are not very likely to spread. Squamous cell carcinomas tend to be somewhat more aggressive than basal cell carcinomas, but are less dangerous than melanoma. Melanomas of the skin are considered the most dangerous because they are more likely to spread to other parts of the body. In many instances, removing the skin cancer is all the treatment that is needed, and this is true even for early stage melanomas. For this reason, many skin cancers are diagnosed

and treated in physicians' offices, which is different from other types of cancer that often require hospital stays. Skin cancers that are more advanced require more treatment; melanomas, in particular, often require hospitalization.

Background Information about the Sources of Skin Cancer Data

This report includes detailed information on the incidence of melanoma in New York State. Information on hospitalizations and deaths due to skin cancer is also provided.

Population-based cancer registries are the main source of cancer incidence data for the United States. In New York State, the central cancer registry is part of the New York State Department of Health and receives additional funding from the National Program of Cancer Registries (NPCR) at the Centers for Disease Control and Prevention (CDC). Cancer registries collect data from medical treatment providers. Hospitals are the primary source of cancer case reports, but treatment centers and some physicians' offices also report cancers. The goal is to collect information on every state resident who is diagnosed with reportable cancer in the state, so that accurate cancer incidence statistics can be provided.

Incidence data on basal and squamous cell skin cancers, however, are not reported to or collected by most cancer registries in the United States, including the New York State Cancer Registry (NYSCR). There are several reasons why these data are not collected. A primary reason is that basal and squamous cell skin cancers are generally not life threatening and are usually treated in physicians' offices, so reporting by physicians' offices would need to be greatly expanded in order to assure complete reporting. Additionally, the NYSCR currently collects information on about 100,000 people diagnosed with cancer each year. Since approximately another 100,000 people are diagnosed with basal or squamous cell skin cancer each year, the NYSCR would need to more than double its current resources to include basal and squamous cell skin cancers

reporting. Because basal and squamous cell skin cancers are not included on the NYSCR, incidence of these cancers is estimated for this report.

The NYSCR does collect reports on melanoma, however, from which it generates statistics. It is likely that the melanoma reporting is incomplete, however, because many early stage melanomas are also treated successfully in physicians' offices. When compared to Connecticut and New Jersey,¹⁴ the number of melanoma diagnoses in New York is 30 percent lower than expected. Both Connecticut and New Jersey receive funding from the National Cancer Institute's Surveillance, Epidemiology and End-Results (SEER) program, and are believed to have more complete reporting from non-hospital sources. The NYSCR is working to improve reporting of melanoma by requiring pathology laboratories to report melanomas they detect. The NYSCR is also contacting physicians, particularly dermatologists, to request case reports. Since improvement in reporting completeness is needed, interpretation of the melanoma statistics is difficult at this time. Recent increases in melanoma incidence are due in part to increased reporting, but there has also been a real increase in the disease.^{7, 9-10} Because improvements in reporting mostly affect reports of melanomas that are in an early stage, increased reporting causes a shift in the proportion of cases that are noted at an early stage.

In addition to collecting diagnostic and treatment information, the NYSCR collects demographic information about each patient. This information is needed for public health planning and evaluation as well as for research. The clinical information collected about each new skin cancer includes the place on the body where the cancer occurred, the size of the tumor, whether or not it has spread beyond the skin, and the initial treatment that was provided. These data are collected in a standard format throughout the country. For example, "place on the body" is grouped into four categories: leg and hip, arm and shoulder, trunk, and head and neck. Melanoma can also develop in the eye and in the mucous membranes, such as the mouth. (Data about these last two melanomas are not included in this report.) For each individual patient, information is collected concerning age, gender, race, ethnicity, and residence at the time of diagnosis.

Another source of information about skin cancer in New York is the Department of Health's Statewide Planning and Research Cooperative System (SPARCS). SPARCS has information about inpatient hospital stays, outpatient (ambulatory) surgery, and emergency department visits. These data include patient demographics and minimal diagnostic and treatment information and can be used to count how many people required extensive surgery or hospitalization for skin cancer. The hospital and outpatient surgery data do not include minor surgeries performed in physicians' offices. Because of the way the disease information is collected in the SPARCS data, skin cancer can be grouped as melanoma and nonmelanoma skin cancer.

Mortality information comes from the death certificates that are completed for every person who dies in New York State. The information provided by physicians is used to determine the underlying cause of death. Death from skin cancer is rare. As with the SPARCS data, causes of death can be grouped as melanoma and nonmelanoma skin cancer.

Background Information about Rates and Counts

How frequently a disease such as skin cancer is diagnosed is an important measure of the impact of the disease on a group of people. When looking at the frequency of disease, we usually include new, or incident, cases that are diagnosed in a particular time period. The counts of how many people get the disease, however, cannot be used to compare different groups. For example, it would not be appropriate to compare the number of melanomas that are diagnosed among residents of Manhattan to the number diagnosed among residents of Albany, because Manhattan has five times more people than Albany. If there are five times more people, then we would expect five times more melanomas. Also, areas with the same population size would be expected to have different rates based on the proportion of non-Hispanic whites in the respective populations. To account for this, we calculate an incidence rate of melanoma. The incidence rate is therefore the number of new cases divided by the population and is expressed as the number of cases per 100,000 people per year.

Since the risk of skin cancer increases with age, we also need to be careful in comparing two groups of people when one group has younger people compared to the other group. A college town will have fewer people diagnosed with melanoma than a retirement community. To account for this, we do a statistical adjustment to the rates to make them comparable even when the age structures are different. This is called “age-adjustment.” The rates presented in this report are age-adjusted. For more information about age-adjustment, please visit the New York State Cancer Registry’s web page at <http://www.health.state.ny.us/statistics/cancer/registry/age.htm>.

Melanoma in New York State

Compared to other cancers that are reportable to the NYSCR, melanoma is rare. Approximately 1,500 men and 1,200 women are diagnosed with melanoma each year in New York State, accounting for approximately 3 percent of cancers among men and 2.5 percent of cancers among women. About 7,000 men and 6,500 women who currently reside in New York have had a diagnosis of melanoma within the past five years. For young adults age 20 to 34 years, melanoma is among the top five types of cancer, but the rate for this age category is lower than for every older age group. Over all ages, melanoma is the eighth most common type of cancer among men and the eleventh most common among women.

Men are at higher risk for developing melanoma than women. The age-adjusted incidence rate among males is about 16 cases per 100,000 men per year. Among females the age-adjusted rate is about 10 cases per 100,000 women per year. Compared to women, men are more likely to work in outdoor occupations such as farming.

Melanoma can occur anywhere on the body. Among men, melanomas develop most commonly on the trunk, followed by the head and neck (Figure 1a.) Among women, the most common area of the body for melanomas to develop are the leg and hip region, followed by the trunk, then the arm and shoulder region (Figure 1b). The difference between men and women in terms of the region of the body where melanomas are most likely to develop is probably due to the differences in clothing.

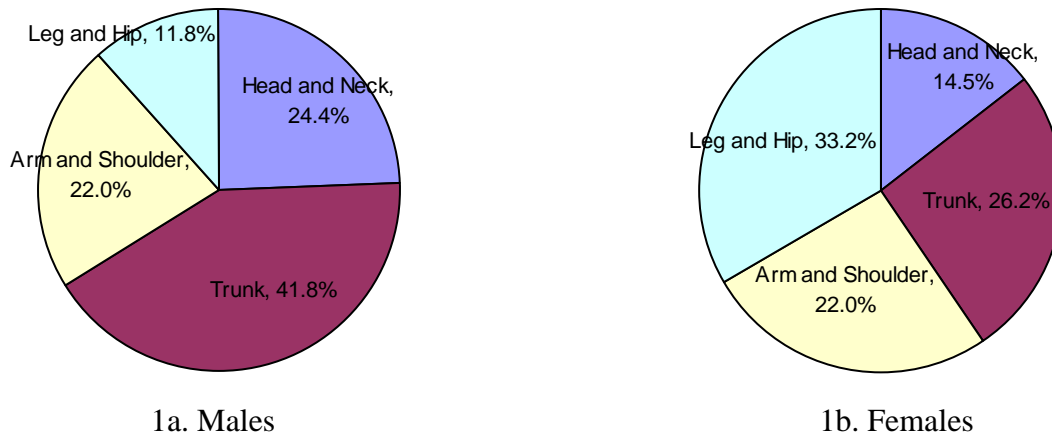


Figure 1. Location of melanomas, New York State, 2001-2005

Like most forms of cancer, melanoma risk increases with age, as seen in Figure 2. Among people younger than age 50, the rates of melanoma are similar among men and women. After age 50, however, the rate among men increases more rapidly than among women.

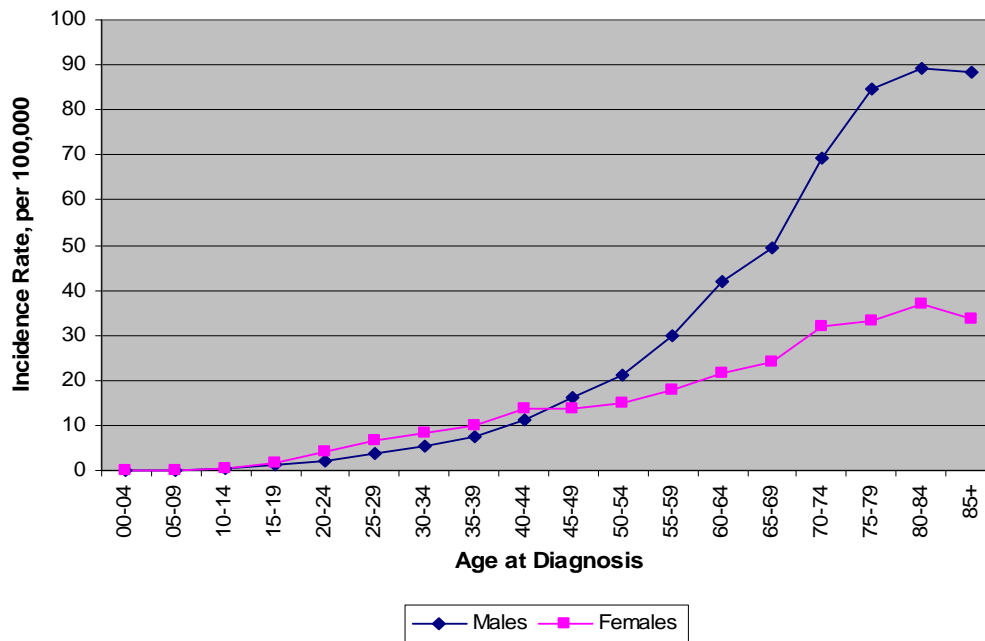


Figure 2. Melanoma incidence rate by age group and gender,
New York State, 2001-2005

Fair skin is also a risk factor for melanoma. The melanoma incidence among non-Hispanic white men is 28 times higher than among non-Hispanic black men and 5 times higher than among Hispanic men. For women, the melanoma rate among non-Hispanic whites is 16 times higher than among non-Hispanic blacks and 5 times higher than among Hispanics (Figure 3).

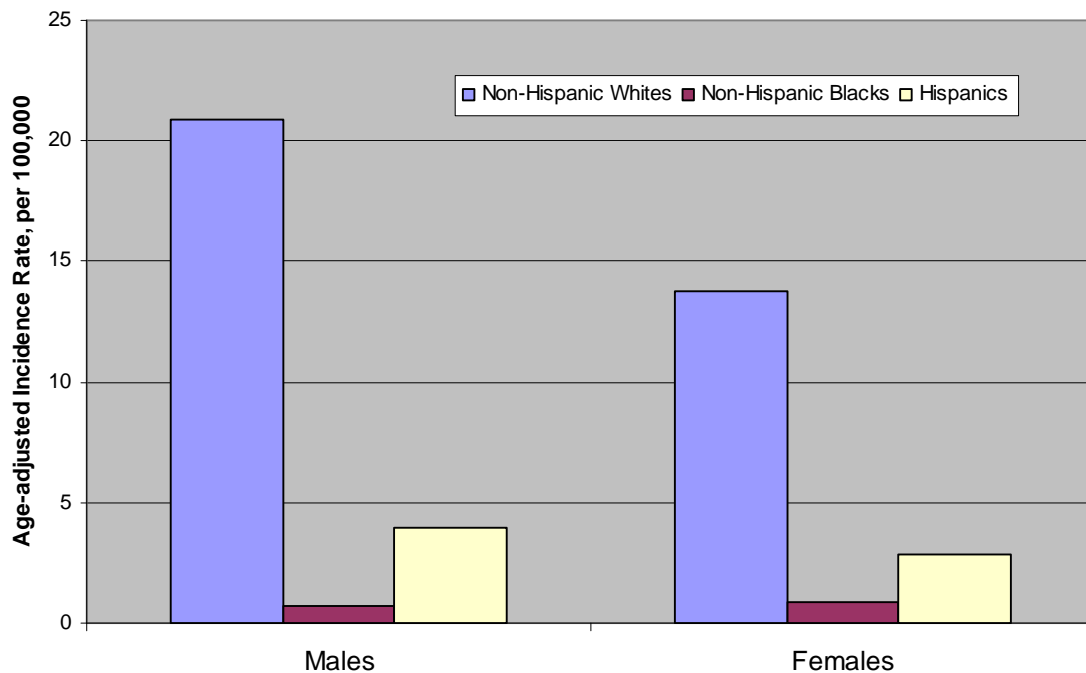


Figure 3. Age-adjusted melanoma incidence rate by race and ethnicity and gender,
New York State, 2001-2005

Among whites, the incidence of melanoma has been increasing since 1976, the first year for which data are available for New York, as shown in Figure 4. The incidence among blacks remained low during this period. Some of this increase in the more recent years may be due to better reporting of melanoma to the NYSCR, but studies have shown that melanomas are increasing in other areas of the United States as well, including the regions covered by the SEER program.

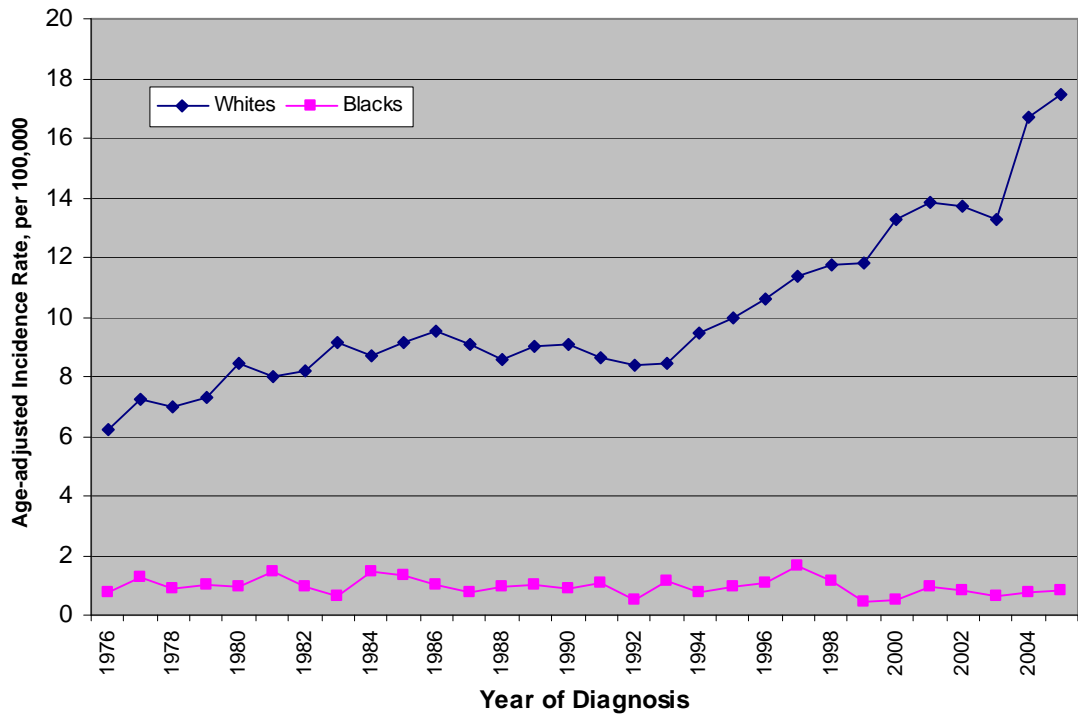


Figure 4. Age-adjusted melanoma incidence rate by year and race, males and females combined, New York State, 1976-2005

Melanoma rates vary across New York State. Since melanoma is less common among blacks and Hispanics, melanoma rates are lower in areas of the state that have a higher proportion of the population that are black or Hispanic. For example, the lowest melanoma rates in the state are observed in the Bronx, where 82 percent of the population is black or Hispanic. The melanoma rates among white non-Hispanics by county for 2001 to 2005 are shown in Figure 5. These rates are adjusted to account for differences in age (age-adjusted). Counties with fewer than 4 cases per year are not shown in this graph because the rates in these counties are very unstable. In counties with smaller populations, a difference of one or two cases per year can make a large difference in the rate of the disease, making interpretation of the county ranking difficult. The melanoma incidence and mortality for every county and for neighborhoods in New York City are provided in the Appendix.

Melanoma can be treated successfully when diagnosed in an early stage. It is important to have a regular check-up by a health care professional and to have a health care professional evaluate suspicious moles or skin changes. Moles should be evaluated if they are uneven in shape or color; are larger than the size of a pencil eraser or if they change in shape, color, or size. In 2005, 82 percent of melanomas reported to the NYSCR were diagnosed before they had spread from the skin, and 5 percent were diagnosed after they had spread to distant organs. The percent of melanomas that are identified before they have spread has been increasing over time. Figure 6 depicts the stage at diagnosis, in terms of *local*, *regional*, and *distant*. Melanomas that are “local” are confined to the skin. “Regional” melanomas have spread to subcutaneous tissue or to lymph nodes in the region of the tumor; and “distant” melanomas are those that have spread to underlying muscle or bone or to tissues and lymph nodes in other areas of the body.

Basal and Squamous Cell Carcinomas of the Skin

Approximately 100,000 New Yorkers develop skin cancer each year. This number is estimated based on the understanding that half of all cancers are skin cancers. The majority of these skin cancers are not life threatening.

There have been a few special studies to estimate skin cancer incidence in the United States.⁶⁻⁸ These studies showed that skin cancer is relatively common and appears to be increasing. Skin cancers on sun-exposed areas of the body increased the most. The increases in skin cancer are likely due to changes in clothing styles and in recreation that leads to sun exposure.

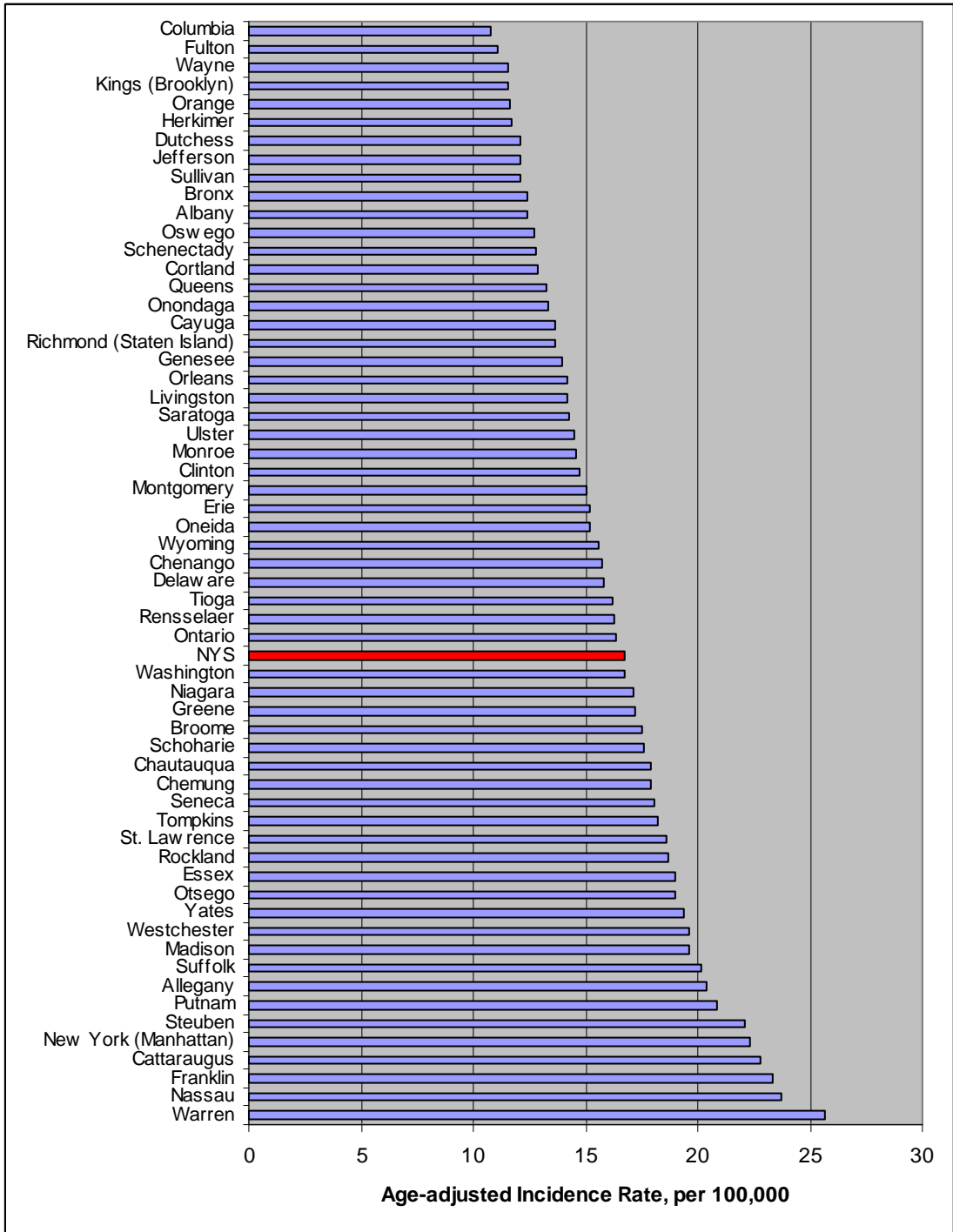


Figure 5. Age-adjusted melanoma incidence rate by county, white non-Hispanics, males and females combined, New York State, 2001-2005

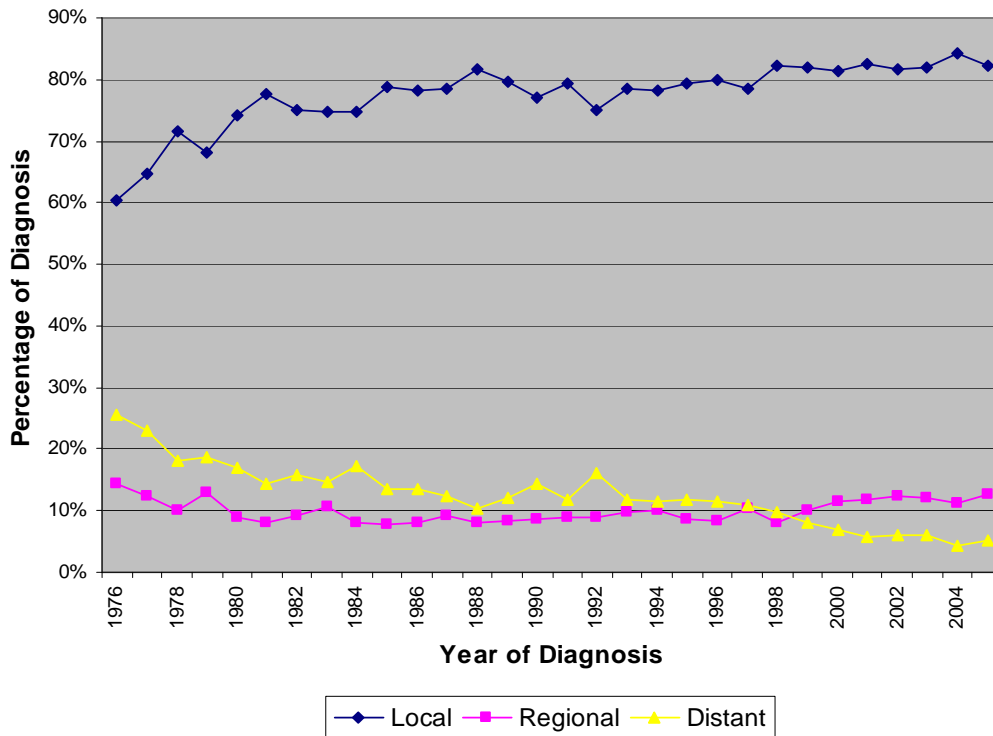


Figure 6. Percentage distribution of stage at diagnosis for melanoma of the skin by year, males and females combined, 1976-2005

Frequency of Inpatient and Outpatient Care for Skin Cancer Patients in New York State

The SPARCS hospitalization and ambulatory surgery service data are indicators of the burden of skin cancer on the New York State health care system. Table 1 shows the number of patients receiving inpatient care with a skin cancer as the principal diagnosis by year. During 2001 to 2005, on average, 426 New York residents were hospitalized each year because of melanoma of the skin, and 500 were hospitalized because of other skin cancers.

Table 1. Number of inpatient hospitalizations with a skin cancer as the principal diagnosis, males and females combined, New York State, 2001-2005

Year	Melanoma	Other Skin Cancers
2001	459	523
2002	433	493
2003	388	525
2004	414	493
2005	438	467

The estimated number of outpatient surgeries for skin cancer treatment from 2001 to 2005, when a skin cancer was the primary reason for care, is shown in Table 2. The average number of outpatient surgeries for melanoma was 1,965 per year and for nonmelanoma skin cancer was 6,431 per year.

Table 2. Number of outpatient surgeries for skin cancer, males and females combined, New York State, 2001-2005

Year	Melanoma	Other Skin Cancers
2001	2224	7041
2002	2031	6801
2003	1514	5648
2004	1869	6263

2005	2189	6404
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Mortality

About 560 New Yorkers die from skin cancer each year. Over 75 percent of these deaths—about 260 men and 180 women—are related to melanoma. Deaths from other types of skin cancer are less common, with about 80 deaths among men and 40 among women per year. Some of the rare types of skin cancer are much more aggressive than basal and squamous cell skin cancer, and some of these deaths are due to these rare, but often fatal, types of skin cancer.

Skin cancer is the fifteenth most common type of cancer death among men and the seventeenth among women. Mortality rates from skin cancer have been fairly steady over time. Figure 7 shows the mortality from skin cancer for 1976 until 2005 among men and women.

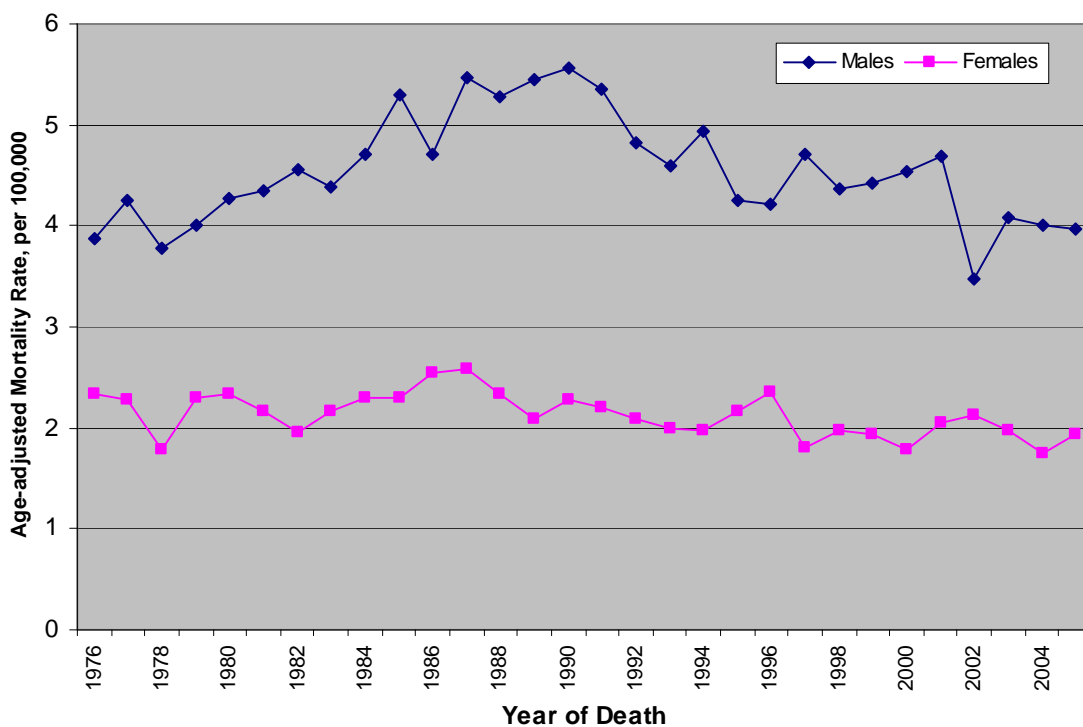


Figure 7. Age-adjusted skin cancer mortality rate by year and gender, New York State, 1976-2005

Summary

Basal and squamous cell carcinomas are the most common types of skin cancer. However, due to the lack of population-based surveillance data, the precise disease incidence rate in New York State remains unknown. It is generally believed that the rate has been increasing during the last several decades nationwide.

Melanoma is among the top ten cancer diagnoses for New York State residents as a whole but among the top five diagnoses for young adults, 20 to 34 years of age. Over the last 30 years, it is clear that the melanoma incidence rate has also been increasing. Melanoma ranks nineteenth as a cancer cause of death.

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Appendix A. Melanoma of the Skin Incidence by County, New York State, 2001-2005

County	<i>Males</i>			<i>Females</i>			County	<i>Males</i>			<i>Females</i>		
	Avg Ann Cases	Rate per 100,000	95% CI (+/-)	Avg Ann Cases	Rate per 100,000	95% CI (+/-)		Avg Ann Cases	Rate per 100,000	95% CI (+/-)	Avg Ann Cases	Rate per 100,000	95% CI (+/-)
New York State	1489.6	17.1	0.4	1181.0	10.9	0.3	Monroe	57.8	16.9	2.0	40.6	9.9	1.4
New York City	362.8	10.8	0.5	333.2	7.3	0.4	Montgomery	4.8	18.6	7.5	3.6	12.2	6.0
New York State Excl New York	1096.2	20.5	0.5	807.8	12.8	0.4	Nassau	177.4	26.1	1.7	133.8	16.3	1.3
Bronx	27.6	6.2	1.1	24.4	3.5	0.6	Niagara	24.2	22.0	3.9	14.8	12.0	2.8
Kings (Brooklyn)	76.6	7.7	0.8	78.4	5.7	0.6	Oneida	22.2	18.0	3.4	18.0	13.4	2.9
New York (Manhattan)	139.6	19.4	1.5	122.4	12.8	1.0	Onondaga	34.8	16.7	2.5	25.6	9.9	1.7
Queens	89.0	9.2	0.9	81.0	6.1	0.6	Ontario	10.4	20.5	5.7	7.8	13.3	4.2
Richmond (Staten Island)	30.0	14.5	2.4	27.0	10.5	1.8	Orange	19.6	12.9	2.7	17.0	9.6	2.1
Albany	18.6	13.1	2.7	20.8	11.9	2.3	Orleans	4.6	21.7	9.0	1.4	6.1	4.5
Allegany	6.2	25.4	9.1	4.2	16.3	7.1	Oswego	8.2	14.1	4.4	7.6	11.9	3.8
Broome	23.2	22.7	4.1	16.4	13.9	3.1	Otsego	6.8	21.7	7.3	5.6	16.5	6.3
Cattaraugus	13.2	30.9	7.5	7.6	16.4	5.3	Putnam	10.8	25.4	7.2	8.6	16.6	5.1
Cayuga	6.6	16.2	5.5	5.0	11.3	4.6	Rensselaer	15.0	20.6	4.7	12.0	14.2	3.6
Chautauqua	15.0	21.5	4.9	12.6	15.2	3.9	Rockland	31.6	23.1	3.7	17.0	10.9	2.3
Chemung	9.6	20.9	5.9	7.2	14.1	4.7	St. Lawrence	12.6	23.6	5.9	8.8	15.3	4.6
Chenango	5.8	21.6	7.9	4.0	13.1	5.9	Saratoga	18.4	18.9	3.9	14.0	12.3	2.9
Clinton	6.8	17.7	6.2	4.8	11.6	4.7	Schenectady	12.4	16.4	4.1	8.6	9.9	3.0
Columbia	5.8	17.3	6.4	2.2	6.2	3.8	Schoharie	3.6	20.4	9.5	2.8	14.8	8.0
Cortland	3.6	16.4	7.7	2.4	9.4	5.4	Schuyler	2.6	23.9	13.2	1.2	9.3	7.5
Delaware	5.2	18.1	7.1	4.4	14.9	6.4	Seneca	3.8	21.3	9.6	3.0	16.7	8.6
Dutchess	18.2	13.0	2.7	14.8	9.5	2.2	Steuben	13.6	26.5	6.3	10.0	18.7	5.3
Erie	80.8	17.0	1.7	64.2	11.4	1.3	Suffolk	158.2	23.8	1.7	114.8	14.4	1.2
Essex	4.8	22.6	9.1	4.0	17.6	7.9	Sullivan	6.0	14.9	5.4	3.6	8.3	3.9
Franklin	6.0	24.1	8.7	5.0	19.5	7.8	Tioga	6.8	26.2	9.0	3.0	10.4	5.3
Fulton	4.0	14.2	6.2	3.2	9.5	4.8	Tompkins	6.8	17.7	6.1	8.2	18.1	5.7
Genesee	5.0	16.3	6.4	4.4	12.9	5.5	Ulster	15.4	17.0	3.9	12.4	12.1	3.0
Greene	5.8	21.9	8.0	4.0	14.1	6.3	Warren	9.8	28.7	8.1	9.4	23.8	6.9
Hamilton	1.2	33.2	27.0	0.8	26.2	28.2	Washington	7.6	24.8	8.0	4.0	11.4	5.1
Herkimer	5.4	15.6	5.9	3.6	9.3	4.4	Wayne	5.0	11.8	4.7	6.2	12.2	4.3
Jefferson	7.8	17.4	5.6	4.8	8.5	3.4	Westchester	101.8	22.7	2.0	70.4	12.4	1.3
Lewis	2.2	16.2	9.7	1.6	11.1	7.8	Wyoming	4.8	23.2	9.6	2.0	8.7	5.4
Livingston	5.8	19.9	7.4	2.8	9.1	4.8	Yates	3.2	22.8	11.2	2.0	15.5	9.8
Madison	9.0	26.1	7.7	5.2	14.4	5.6							

Rates are per 100,000 persons, age-adjusted to the 2000 US population, with 95% confidence intervals. Incidence data are provisional, January 2008.

Note: *Rates based on fewer than 4 cases or deaths per year are unstable and should be used with caution.*

**Appendix B. Melanoma of the Skin Incidence by Borough and UHF Neighborhood,
New York City, 2001-2005**

Borough/Health District	Males			Females		
	Avg Ann Cases	Rate per 100,000	95% CI (+/-)	Avg Ann Cases	Rate per 100,000	95% CI (+/-)
New York State	1489.6	17.1	0.4	1181.0	10.9	0.3
New York City	362.8	10.8	0.5	333.2	7.3	0.4
Bronx	27.6	6.2	1.1	24.4	3.5	0.6
Crotona - Tremont	1.2	2.5	2.1	1.0	1.7	1.5
Fordham - Bronx Park	3.2	5.1	2.5	4.4	4.5	1.9
High Bridge - Morrisania	1.0	1.6	1.4	0.6	0.8	0.9
Hunts Point - Mott Haven	1.2	4.7	4.1	0.8	1.7	1.7
Kingsbridge - Riverdale	10.0	22.2	6.2	5.6	8.3	3.3
Northeast Bronx	2.8	3.7	2.0	4.0	3.1	1.4
Pelham - Throgs Neck	8.0	7.8	2.4	7.8	5.0	1.6
Kings (Brooklyn)	76.6	7.7	0.8	78.4	5.7	0.6
Bedford Stuyvesant - Crown Heights	1.6	1.4	1.0	2.4	1.4	0.8
Bensonhurst - Bay Ridge	12.6	12.5	3.1	12.4	9.9	2.6
Borough Park	16.0	11.6	2.6	12.8	7.6	1.9
Canarsie - Flatlands	5.0	6.3	2.5	6.8	6.0	2.0
Coney Island - Sheepshead Bay	20.8	13.5	2.6	20.6	10.1	2.1
Downtown - Heights - Slope	10.6	11.5	3.3	11.8	10.0	2.6
East Flatbush - Flatbush	2.8	3.0	1.7	3.8	2.5	1.1
East New York	1.0	2.1	2.0	0.6	1.0	1.2
Greenpoint	2.6	5.2	2.9	3.8	6.6	3.0
Sunset Park	2.6	7.9	4.4	2.2	4.2	2.5
Williamsburg - Bushwick	1.2	1.9	1.7	1.2	1.3	1.0
New York (Manhattan)	139.6	19.4	1.5	122.4	12.8	1.0
Central Harlem - Morningside Heights	1.0	1.9	1.7	1.2	1.6	1.3
Chelsea - Clinton	14.2	23.8	6.2	14.2	20.5	4.9
East Harlem	0.2	0.4	0.7	1.4	2.4	1.8
Gramercy Park - Murray Hill	24.4	37.6	6.8	17.4	20.4	4.4
Greenwich Village - Soho	8.8	19.9	6.2	8.8	17.6	5.3
Lower Manhattan	3.0	19.1	10.2	2.8	13.7	7.4
Union Square - Lower East Side	11.4	12.6	3.3	10.8	9.5	2.6
Upper East Side	45.4	42.9	5.7	38.0	26.8	4.0
Upper West Side	26.0	24.5	4.4	25.6	18.9	3.3
Washington Heights - Inwood	4.8	5.7	2.4	2.0	1.7	1.0
Queens	89.0	9.2	0.9	81.0	6.1	0.6
Bayside - Little Neck	6.8	14.0	4.7	7.8	13.2	4.3
Flushing - Clearview	14.0	10.9	2.5	11.4	7.3	1.9
Fresh Meadows	6.4	13.5	4.7	4.6	7.9	3.3
Jamaica	3.2	3.0	1.5	2.6	1.5	0.8
Long Island City - Astoria	8.8	10.0	3.1	9.2	8.6	2.5
Ridgewood - Forest Hills	16.4	13.8	3.0	15.0	10.0	2.3
Rockaway	9.2	20.1	5.8	5.4	8.0	3.1
Southeast Queens	7.6	10.7	3.4	5.6	4.6	1.7
Southwest Queens	6.0	6.2	2.3	7.4	5.5	1.8
West Queens	9.6	5.8	1.7	11.8	5.3	1.4
Richmond (Staten Island)	30.0	14.5	2.4	27.0	10.5	1.8
Port Richmond	2.4	11.7	6.7	3.0	10.0	5.1
South Beach - Tottenville	16.0	19.0	4.3	12.6	12.3	3.0
Stapleton - St. George	4.6	8.9	3.7	5.6	8.2	3.1
Willowbrook	6.8	16.2	5.6	5.8	10.8	4.0

Rates are per 100,000 persons, age-adjusted to the 2000 US population, with 95% confidence intervals. Incidence data are provisional, January 2008.

Note: Rates based on fewer than 4 cases or deaths per year are unstable and should be used with caution.