RUTGERS Cancer Institute of New Jersey

NCI Comprehensive Cancer Center

A Cancer Center Designated by the National Cancer Institute

# Melanoma in New Jersey

A Report from the Cancer Research Program

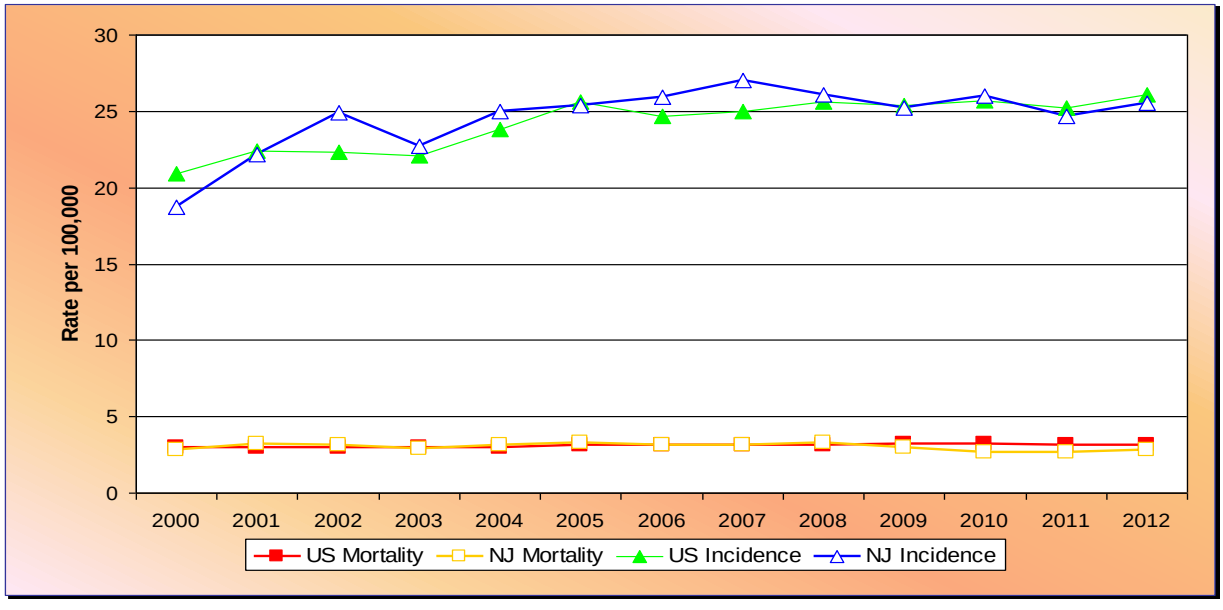
March 2016

## Part 1: Incidence, Mortality, and Survival

NJ Health New Jersey Department of Health

**What is Melanoma?** Malignant melanoma is the rarest but most lethal form of skin cancer. Melanomas can occur in other locations throughout the body, but the skin is by far the most common site. Throughout this report, the term melanoma will be used to refer to skin melanoma. The incidence of melanoma is highest in non-Hispanic whites compared to other racial and ethnic groups; therefore, some of the figures are focused on whites. No one knows the exact causes of melanoma and doctors can seldom explain why one person gets melanoma and another does not. Experts believe that much of the worldwide increase in melanoma is related to an increase in the amount of time that people spend in the sun, especially during childhood. Therefore, melanoma prevention begins with avoidance of exposure to the sun, especially during midday. Those who cannot avoid the sun should limit direct sun exposure by using broad-brimmed hats, long-sleeved shirts, pants, sun-resistant fabrics, and sunscreen with a 30+ SPF. Tanning beds or sunlamps should be avoided.

**Fig. 1: Melanoma Incidence and Mortality in Whites, New Jersey and United States, 2000-2012**




Rates are per 100,000 population and age-adjusted to the 2000 U.S. population standard. Incidence-SEER 18 Regs Research Data, Nov 2014 Sub (2000-2012). Mortality-All COD, Aggregated With State, Total U.S. (1990-2012).

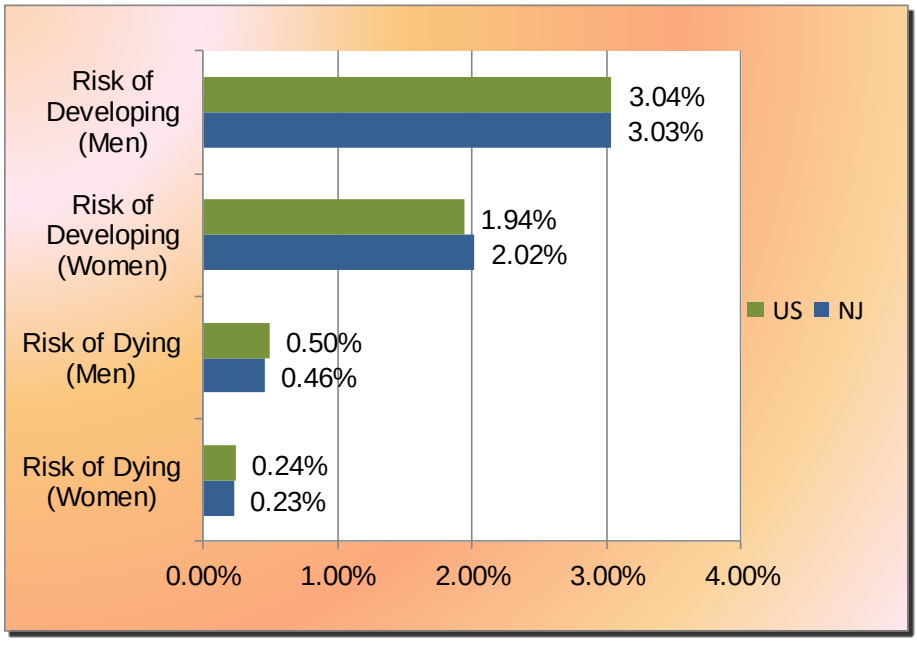
**Incidence:** Over time melanoma incidence has increased substantially in the United States (US) and New Jersey (NJ); however rates have stabilized in NJ and the US over the past five years.

- In NJ, melanoma incidence has decreased from 26.1 in 2008 to 25.5 in 2012.
- Every year approximately 1700 NJ men and 840 NJ women are diagnosed with melanoma.
- Melanoma is the seventh most common cancer in NJ.

**Mortality:** Melanoma mortality rates are stable in the US, while rates in NJ are falling slightly.

- In NJ, there has been a statistically significant decrease in melanoma mortality falling from 3.3 in 2008 to 2.8 in 2012.
- Approximately 150 NJ men and 90 NJ women die from melanoma every year.
- Melanoma deaths are responsible for about three-fourths of the deaths from skin cancer[1].
- Decreases in mortality can be attributed to early detection and treatment[1].

**Fig. 2: Lifetime Risk of Developing/ Dying of Melanoma in Whites, NJ and US, 2010-2012**




Lifetime risk is the probability of developing or dying from cancer in the course of one's lifespan. These estimates reflect the average experience of people in NJ and the US and do not take into account individuals' behaviors or risk factors. For example, the estimate of 1 in 33 men developing melanoma in his lifetime would underestimate the risk for men who have a family history of melanoma.

The NJ lifetime risk of….

- developing melanoma is 1 in 33 for white men and 1 in 50 for white women
- dying from melanoma is 1 in 216 for white men and 1 in 432 for white women

The US lifetime risk of….

- developing melanoma is 1 in 33 for white men and 1 in 52 for white women
- dying from melanoma is 1 in 201 for white men and 1 in 411 for white women

**Melanoma in NJ Counties** Melanoma affects people in all NJ counties, with some of the counties with the highest incidence rates along the coast. There are many possible explanations for geographic variations in cancer rates including differences in lifestyles, access to medical care, screening practices, reporting practices, and environmental exposures.

**Fig. 3: Melanoma Incidence in Whites by NJ County, 2008-2012**

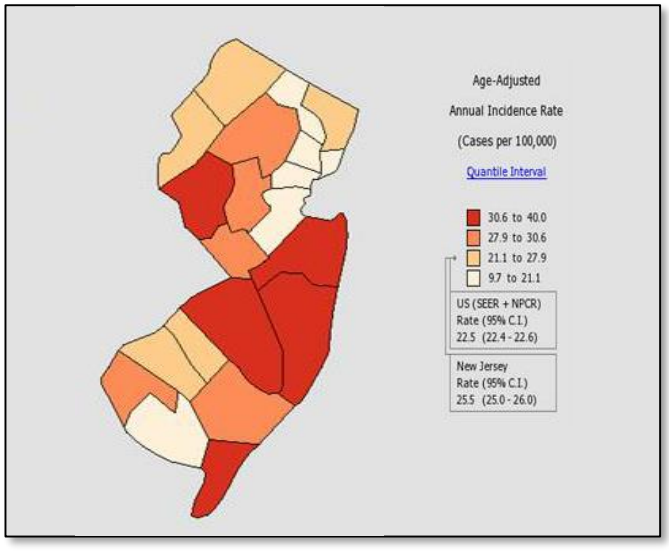
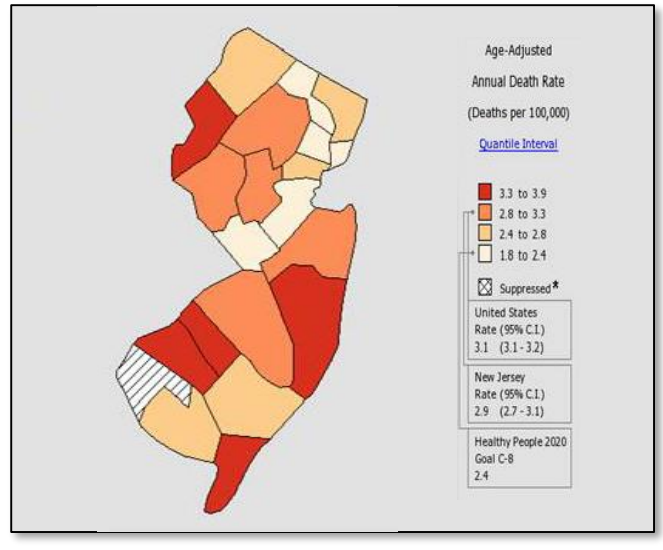
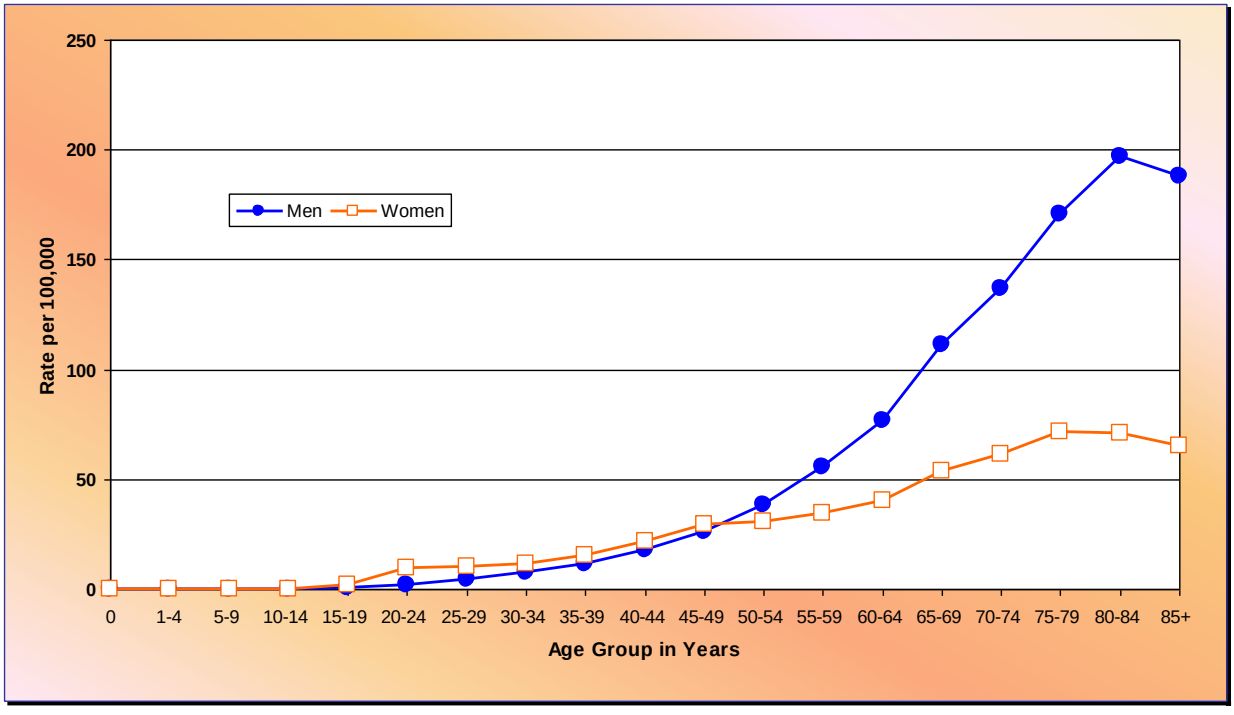



**Fig. 4: Melanoma Mortality in Whites by NJ County, 2008-2012**




State Cancer Profiles. (2015, July 23). Retrieved from http://statecancerprofiles.cancer.gov/index.html

**Fig. 5: Melanoma Incidence in Whites by Gender and 5-Year Age Group, NJ, 2008-2012**



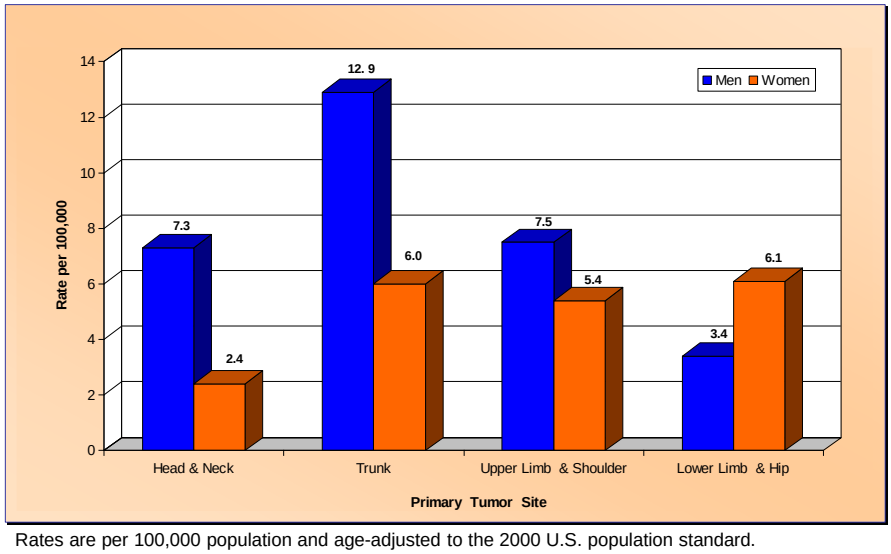

## Age & Gender Differences

In the US, melanoma is the fifth leading cancer site for men (5%) and the seventh leading cancer site for women (4%).[1] The chance of developing melanoma increases with age, but affects all ages. When men reach age 45, the risk of developing melanoma surpasses that of women as incidence begins to increase dramatically.

### What increases my risk for developing melanoma?

- Exposure to ultraviolet radiation (UVA & UVB)
- Severe blistering sunburns, especially as a child
- Having abnormal or large moles
- Having many (more than 50) ordinary moles
- Family or personal history of melanoma
- Fair complexion with a tendency to sunburn
- Weakened immune system

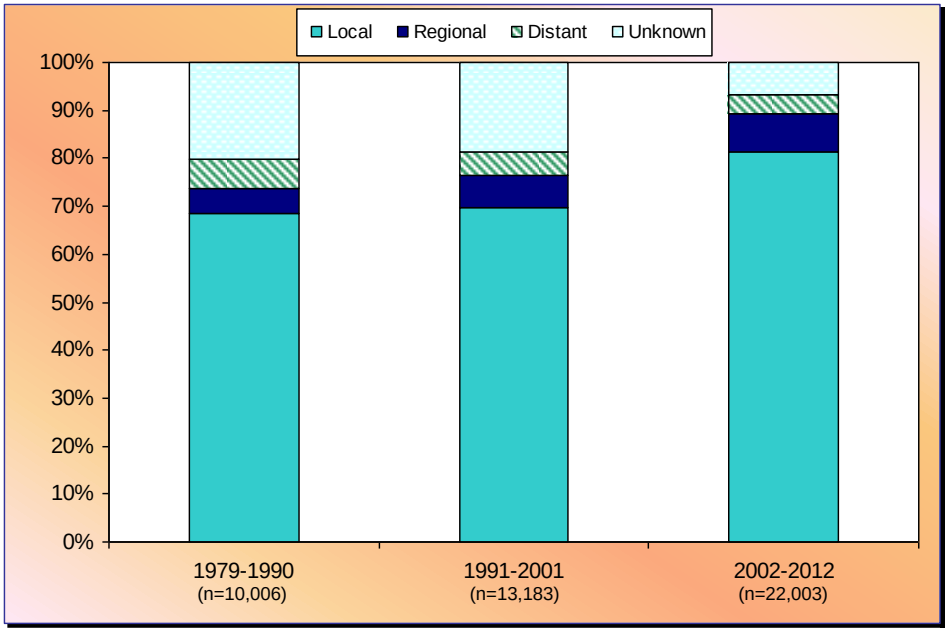
**Fig. 6: Melanoma Incidence in Whites by Body Site and Gender, NJ, 2008-2012**




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

Melanoma can occur on any skin surface. In men, melanoma is more often found on the trunk (the area between the shoulders and the hips) or the head and neck. In women, it more often develops on the lower legs. This can be attributable to differences in occupational and recreational sun exposure.[1]

Fig. 7: Melanoma Incidence in All Races by Stage, NJ, 1979-2012



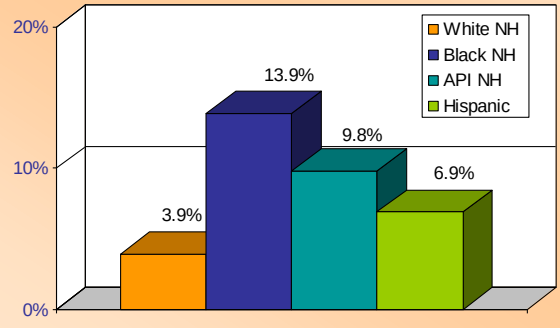

## Stage at diagnosis

Over time, the proportion of melanomas that are diagnosed at the local, more curable stage, have increased by 12.8%. Diagnosis of melanoma at the distant, most lethal stage, has decreased by 2%. This could be a result of early detection programs and increased public awareness about the importance of screening.

## Stage Differences by Race / Ethnicity

Even though most cases are diagnosed at the local stage, racial and ethnic disparities exist for those being diagnosed with distant stage melanoma. The percentage of white non-Hispanics diagnosed with late stage melanoma is less than half of that of other races and ethnicities.

Fig. 8: Proportion of Cases Diagnosed with Melanoma in Distant Stage by Race / Ethnicity, NJ, 2000-2012 (n= 983)




## Stage Differences by Age

As age increases, the likelihood that you will be diagnosed at a later stage increases. The percentage of people who are diagnosed with a distant stage melanoma increases from 1.6% to 5.4% as a person ages.

Fig. 9: Proportion of Melanoma Cases by Stage and 5-Year Age Group, Whites, NJ, 2008-2012

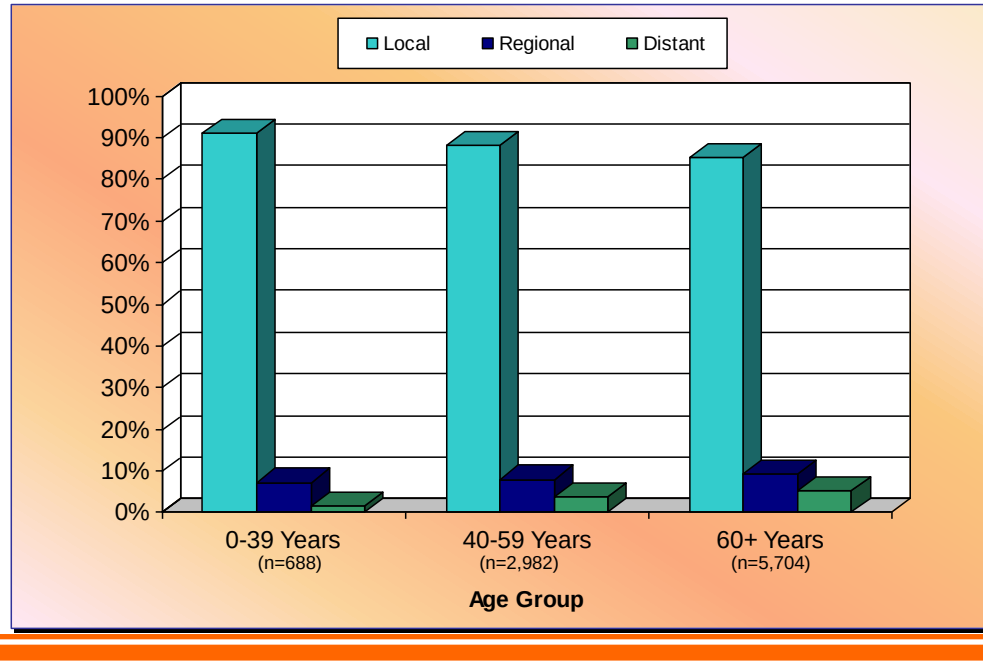
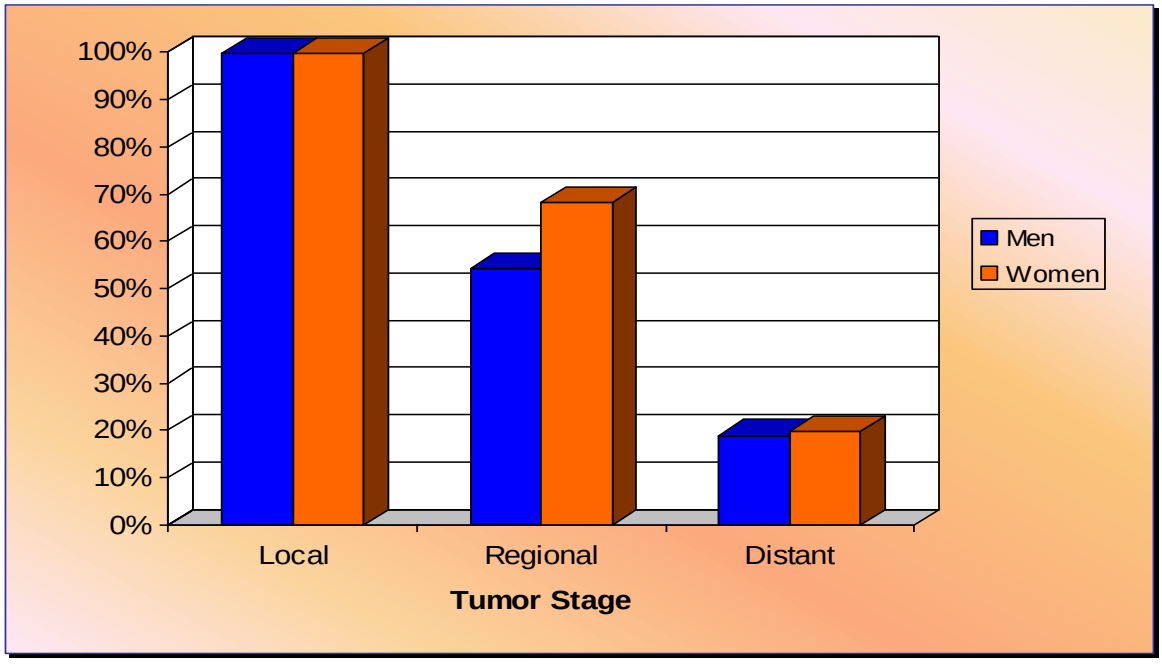


**Fig. 10: Melanoma Five-Year Relative Survival in Whites by Stage and Gender, NJ, 2007-2011**




The 5-year survival refers to the percentage of patients who live at least 5 years after being diagnosed with melanoma. Diagnosis at the local stage is associated with the best prognosis (99.8% for men and women), followed by diagnosis at the regional stage (54.3% men, 68.3% women). Diagnosis at the distant stage is associated with the poorest survival outcome (19% men, 19.9% women). An individual's cancer survival is dependent on several factors, such as, age, overall health, treatment received, and how well the cancer responds to the treatment.

## What are the best ways to prevent and reduce the risk of melanoma?

- Protect yourself from UV rays that can penetrate light clothing, windshields, & windows.
- Avoid exposure to the midday sun (from 10 a.m. to 4 p.m.) whenever possible.
- If you must be outside, wear long sleeves, long pants, and a hat with a wide brim.
- Help protect your skin by using sunscreen (SPF of 30+ provides the most protection).
- Wear sunglasses that have UV-absorbing lenses that block at least 99% of UVA & UVB rays.
- Avoid tanning beds and sunlamps.
- Teach children about the dangers of too much sun exposure and protect them from excess exposure.

[1] American Cancer Society. Cancer Facts & Figures 2016. Atlanta: American Cancer Society; 2016

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***Scan the QR code to access the report and technical notes***

## Technical Notes

### NJSCR Data

The New Jersey State Cancer Registry (NJSCR) collects information about cancer diagnosed among New Jersey residents. New Jersey incidence and survival data for this report were derived from the NJSCR January 2015 analytic file. U.S. incidence and mortality data, and New Jersey mortality data were obtained from the Surveillance, Epidemiology, and End Results (SEER) program of the National Cancer Institute (NCI). SEER data are generally used for the U.S. rates and are considered to be representative of the entire U.S. population. This report includes all cases of malignant melanoma of the skin (basal and squamous cells skin cancers are not included) for the years 1979-2012. Melanoma of the skin is defined by the topography codes for skin (C440-C449) and histology codes for melanoma (8720-8790) as detailed in International Classification of Diseases for Oncology (ICD-O) third edition. For detailed definitions of the cancer categories, please visit the SEER program website (http://www.seer.cancer.gov/siterecode/icdo3_d01272003/).

### Analysis Methods

In this report, counts and rates were tabulated using SEER*Stat version 8.2.1 (http://seer.cancer.gov/seerstat/), a statistical software package distributed by the NCI. Rates were per 100,000 and age-adjusted to the 2000 U.S. standard population. Incidence rates and counts were suppressed where counts were fewer than five as a way to ensure statistical reliability and patient confidentiality. Mortality data were provided through NCI's SEER program in the SEER*Stat database and data were suppressed by default where counts were fewer than ten. Survival time was calculated from the date of diagnosis to the date of death, the date last known to be alive if there was no date of death, or December 31, 2012, whichever occurred earliest. Cases with zero survival time were excluded. Stage at diagnosis was coded according to SEER summary stage – local, regional, distant and unknown. The New Jersey county incidence and mortality maps were generated by the NCI, State Cancer Profiles (http://statecancerprofiles.cancer.gov/index.html).

Data to develop the Lifetime Risk of Developing or Dying of Cancer was obtained using Devcan: Probability of Developing or Dying of Cancer Software, Version 6.7.2; Statistical Research Applications Branch, NCI, 2005 (http://srab.cancer.gov/devcan ). Source data for the incidence data included NJSCR, January 2015 analytic file, using SEER*Stat software. Source data for the mortality data included SEER 18 Regs Research Data+Hurricane Katrina Impacted Lousianna Cases, Nov 2014 (2000-2012) Mortality - All COD, Aggregated With State, Total U.S. (1969-2012).

## Technical Notes (continued)

### Ethnicity and Race

The NJSCR used the NAACCR Hispanic Identification Algorithm (NHIA) to assign Hispanic ethnicity to cases. This method uses data on birthplace, marital status, gender, race and surname match to the 1990 Hispanic surname list to augment the number of cases and decedents reported as Hispanic in the registry. A more complete description of the NHIA version 2 is available at the following link to the NAACCR website: http://www.naaccr.org/LinkClick.aspx?fileticket=6E20OT41TcA%3d&tabid=118&mid=458. The NJSCR uses the NAACCR Asian Pacific Islander Identification Algorithm version 1 (NAPIIA v1.2.1) using the birthplace and name fields (first, last, and maiden names) to classify cases directly or indirectly as Asian/Pacific Islander for analytic purposes. A more complete description of the NHIA version 2 is available at the following link to the NAACCR website: http://www.naaccr.org/LinkClick.aspx?fileticket=3HnBhlmhkBs%3d&tabid=118&mid=458

### Population Data

The 1979-2012 New Jersey population estimates for this report were provided by the NCI's SEER Program released in January 2015 and downloaded from the SEER website (http://www.seer.cancer.gov/popdata/download.html). The population estimates represent a modification of the intercensal and Vintage 2013 annual time series of July 1 county population estimates by age, sex, race, and Hispanic origin produced by the US Census Bureau's Population Estimates Program, in collaboration with the National Center for Health Statistics, and with support from the NCI through an interagency agreement. The bridged single-race estimates and a description of the methodology used to develop them are available on the National Center for Health Statistics (NCHS) website (http://www.cdc.gov/nchs/nvss/bridged_race.htm).

### Additional Resources

For additional information on NJSCR data, rate calculation methods, ethnicity and race classification and population data, additional information may be located in the technical notes section of the *Cancer Incidence and Mortality in New Jersey, 2008-2012* report located at http://www.state.nj.us/health/ces/documents/report08-12.pdf