National Cancer Institute

A Snapshot of

Melanoma

Incidence and Mortality Rate Trends

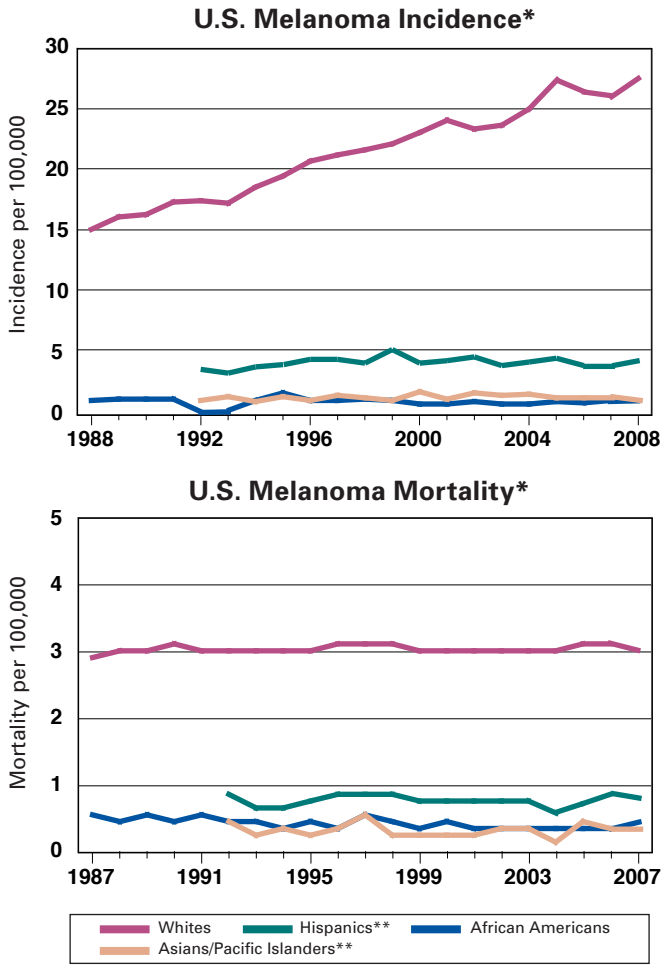
The most deadly form of skin cancer, melanoma, is the fifth most common type of new cancer diagnosis in American men and the seventh most common type in American women. The incidence rate for invasive melanoma is highest in whites, who are almost 30 times more likely to develop melanoma than African Americans. Men aged 65 or older are more than twice as likely to develop melanoma as women in the same age group. The annual incidence of melanoma has steadily increased among whites, with a greater than 60 percent increase over the past 30 years. Rapid increases have occurred among white women aged 15 to 39 years, in whom incidence has increased by 3 percent annually since 1992, and among white men older than 65, in whom incidence has increased by 5.1 percent annually since 1975.

It is estimated that, in 2011, 70,230 individuals will be diagnosed with melanoma in the United States, and 8,790 people will die as a result of the disease.

Approximately $1.9 billion[1] is spent in the United States each year on melanoma treatment.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov/.

[1] Cancer Trends Progress Report (http://progressreport.cancer.gov), in 2006 dollars.



* Insufficient data available for time trend analysis for American Indians/Alaska Natives.
** Incidence and mortality data not available before 1992.

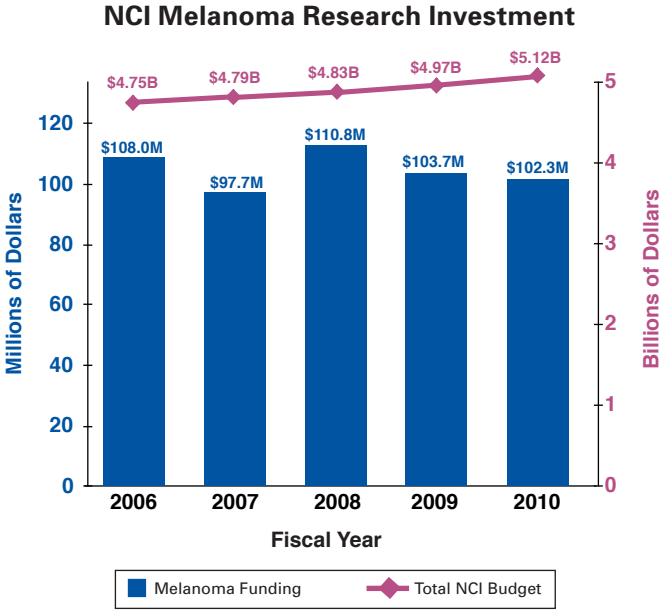
Trends in NCI Funding for Melanoma Research

The National Cancer Institute's (NCI) investment[2] in melanoma research increased from $108 million to $110.8 million between fiscal years (FY) 2006 and 2008 before decreasing to $102.3 million in FY 2010. In addition, NCI supported $25.2 million in melanoma research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).[3]

Source: NCI Office of Budget and Finance (http://obf.cancer.gov).

[2] The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see http://www.nih.gov/about/.

[3] For more information regarding ARRA funding at NCI, see http://www.cancer.gov/aboutnci/recovery/recoveryfunding.



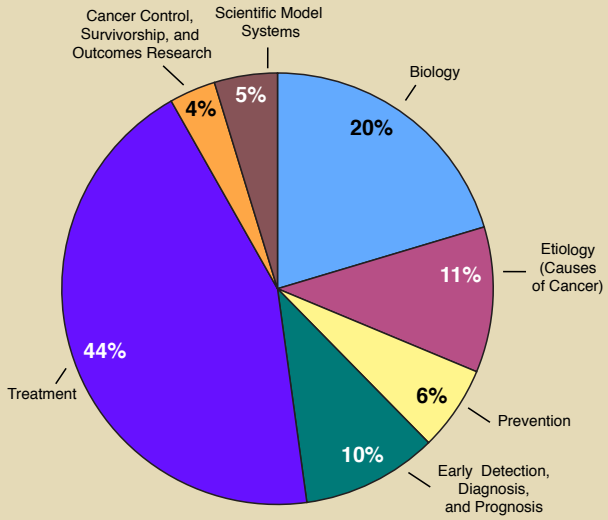
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Examples of NCI Activities Relevant to Melanoma

- Health professionals can use the **Melanoma Risk Assessment Tool** to identify individuals at increased risk of melanoma and plan potential screening interventions. http://www.cancer.gov/melanomarisktool/
- NCI supports early-phase clinical trials of targeted, personalized cancer regimens through the **Accelerating Clinical Trials of Novel Oncologic Pathways (ACTNOW)** program, including a phase II trial for melanoma patients with specific tumor gene mutations. http://www.cancer.gov/aboutnci/recovery/recoveryfunding/actnow
- The **Clinical, Laboratory, and Epidemiologic Characterization of Individuals and Families at High Risk of Melanoma Study** explores how genetic and environmental factors contribute to melanoma development. http://www.cancer.gov/clinicaltrials/featured/trials/nci-02-c-0211
- The NCI-supported **Cancer Immunotherapy Trials Network** conducts multicenter clinical trials on promising new agents that boost patients' own immune systems to fight cancer, including melanoma. http://citninfo.org/
- The **Genes, Environment and Melanoma (GEM) Consortium** and the **Melanoma Genetics Consortium (GenoMEL)** explore how sun exposure and genetic factors contribute to development and progression of melanoma. http://epi.grants.cancer.gov/Consortia/tables/melanoma.html
- Five skin-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are identifying risk factors for melanoma, developing models to predict the likelihood of metastasis, assessing the effectiveness of novel therapies, and developing new treatments. http://trp.cancer.gov/spores/skin.htm

NCI Melanoma Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2010

Data source: The NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio Web site at http://fundedresearch.cancer.gov

- The **What You Need to Know About™ Melanoma and Other Skin Cancers** booklet contains information about melanoma risks and prevention, symptoms, diagnosis, treatment, and follow-up care. Information specialists can also answer questions about cancer at 1-800-4-CANCER. http://www.cancer.gov/cancertopics/wyntk/skin
- The **NCI Melanoma Home Page** directs visitors to up-to-date information on melanoma treatment, prevention, genetics, causes, screening, testing, and other related topics. http://www.cancer.gov/cancertopics/types/melanoma

Selected Advances in Melanoma Research

- Sequencing of all protein-coding genes in melanoma tumor samples and matched blood samples has identified **key gene alterations** that may drive melanoma development and growth. http://www.cancer.gov/newscenter/pressreleases/2011/MelanomaWholeExomeSequence and http://www.ncbi.nlm.nih.gov/pubmed/21499247
- Researchers have discovered that an immune system protein called **interferon-gamma can promote the development of melanoma** triggered by ultraviolet light exposure in a mouse model. http://home.ccr.cancer.gov/inthejournals/itj_3.asp and http://www.ncbi.nlm.nih.gov/pubmed/21248750
- In an early phase III trial, **almost half the patients responded to an experimental drug called vemurafenib** that targets a common genetic mutation present in about half of melanoma tumors. http://www.cancer.gov/ncicancerbulletin/061411/page2
- Two studies have **uncovered molecular changes that may allow tumors to resist treatment with vemurafenib, a promising new melanoma drug**, suggesting possible strategies to overcome this resistance. http://www.cancer.gov/ncicancerbulletin/113010/page8#d