

Head and Neck Cancer

Incidence and Mortality Rate Trends

Cancers of the head and neck, which include cancers of the oral cavity, larynx (voice box), pharynx, salivary glands, and nose/nasal passages, account for approximately 3 percent of all malignancies in the United States. Tobacco and alcohol use are the most important risk factors for head and neck cancers. In recent years, the incidence of head and neck cancers in whites has risen above that of African Americans, although mortality is still higher among African Americans. The incidence and mortality rates in all populations have been decreasing over the past 20 years.

It is estimated that approximately \$3.1 billion¹ is spent in the United States each year on treatment for head and neck cancers.

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.

Trends in NCI Funding for Head and Neck Cancer Research

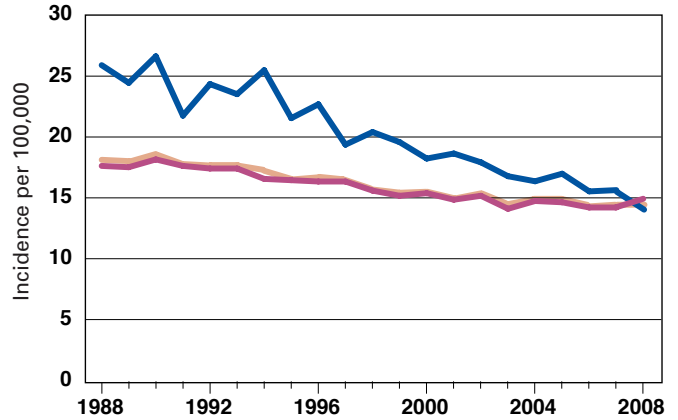
The National Cancer Institute's (NCI) investment² in head and neck cancers research increased from \$66.2 million to \$77.0 million between fiscal years (FY) 2007 and 2009 before decreasing to \$62.7 million in FY 2010. In addition, NCI supported \$13.8 million in head and neck cancer research in FY 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/>).

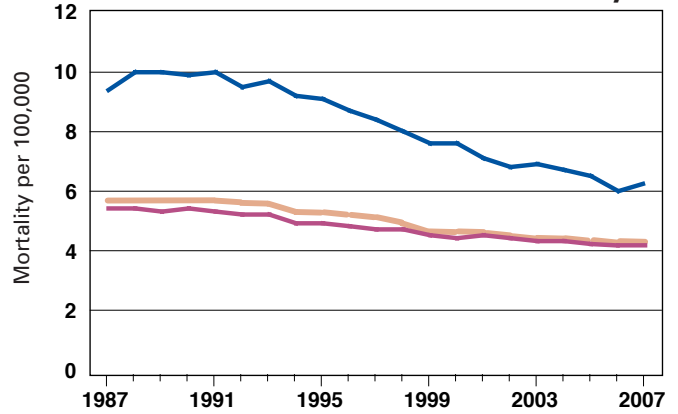
² The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see <http://www.nih.gov/about/>.

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

U.S. Head and Neck Cancer Incidence

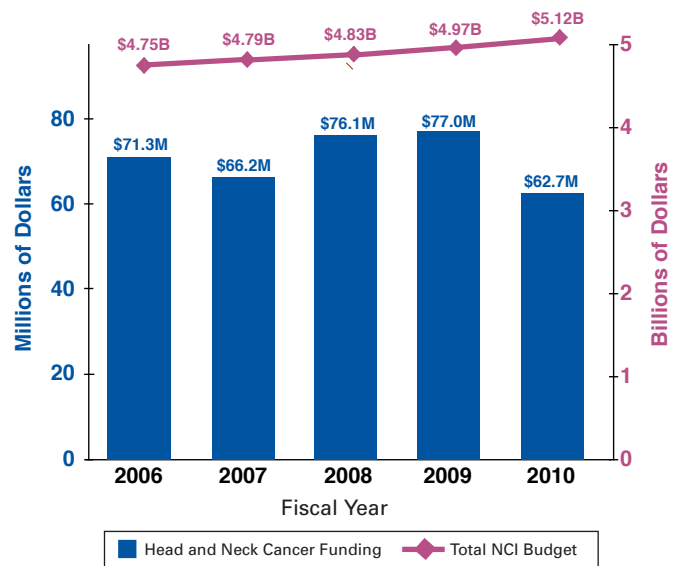


U.S. Head and Neck Cancer Mortality



Legend: Whites (pink line), African Americans (blue line), Overall (orange line)

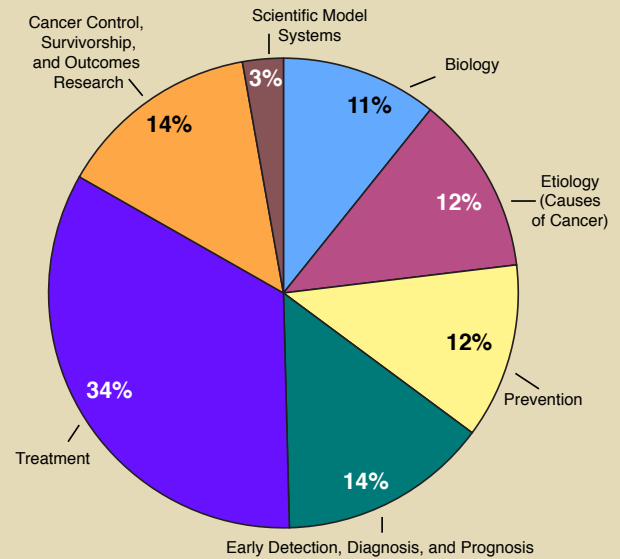
NCI Head and Neck Cancer Research Investment



Examples of NCI Activities Relevant to Head and Neck Cancer

- The **Prevention Agents Program** provides scientific and administrative oversight for chemoprevention agent development from preclinical research to phase I clinical trials. The program currently supports research on six agents for potential chemoprevention of head and neck cancers. <http://prevention.cancer.gov/programs-resources/groups/cad/programs/agents>
- Information on treatment options for oropharyngeal cancer is available from **PDQ, NCI's comprehensive cancer database**. <http://www.cancer.gov/cancertopics/pdq/treatment/oropharyngeal/Patient>
- **The Cancer Genome Atlas (TCGA)** is assessing the feasibility of systematically identifying the major genomic changes involved in cancer using state-of-the-art genomic analysis technologies. TCGA is now investigating 20 cancer types, including head and neck cancers. TCGA researchers are hoping to determine whether genomic changes are different between metastatic and non-metastatic tumors and to identify genomic differences in tumors associated with age, smoking history, and viral infection. <http://cancergenome.nih.gov/>
- The **International Head and Neck Cancer Consortium** facilitates collaborative research on the epidemiology of head and neck cancers. <http://epi.grants.cancer.gov/Consortia/tables/head.html>
- NCI supports studies that explore **Biomarkers of Infection-Associated Cancers**, including head and neck cancers. <http://grants.nih.gov/grants/guide/pa-files/PA-11-158.html>
- Five **Specialized Programs of Research Excellence (SPOREs)** in head and neck cancers support translational research on cancers of the upper aerodigestive tract and thyroid cancer. SPORE researchers are addressing markers of genetic susceptibility of head and neck cancers and novel therapies for treatment and prevention. <http://trp.cancer.gov/spores/headandneck.htm>

NCI Head and Neck Cancer 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™ Oral Cancer and Cancer of the Larynx** booklets contain information about possible causes, symptoms, diagnosis, and treatment options for these head and neck cancers. Information specialists can also answer questions about cancer at 1-800-4-CANCER. <http://www.cancer.gov/cancertopics/wyntk/oral> and <http://www.cancer.gov/cancertopics/wyntk/larynx>
- The **NCI Head and Neck Cancer Home Page** provides up-to-date information on head and neck cancers treatment, prevention, genetics, causes, screening, testing, and other related topics. <http://www.cancer.gov/cancertopics/types/head-and-neck>

Selected Advances in Head and Neck Cancer Research

- A small study of 20 patients has identified **genes whose altered expression is associated with poor survival** in metastatic oral cancer. <http://www.ncbi.nlm.nih.gov/pubmed/20537188>
- Results of a phase II clinical trial suggest that a **novel regimen combining bevacizumab and pemetrexed** may be efficacious for patients with recurrent or metastatic squamous cell carcinoma of the head and neck. <http://www.ncbi.nlm.nih.gov/pubmed/21343546>
- An inflammatory molecule called **human beta-defensin 3 promotes survival and metastasis** of head and neck squamous cell carcinoma cells by increasing expression of a chemokine receptor, CCR7. <http://www.ncbi.nlm.nih.gov/pubmed/21071608>
- A model suggests that a community-based **oral cancer screening program targeting high-risk males** (regular users of tobacco or alcohol) would likely be cost-effective. <http://www.ncbi.nlm.nih.gov/pubmed/21384383>