

# Bladder Cancer

## Incidence and Mortality Rate Trends

Although urinary bladder cancer incidence is much higher in whites than in African Americans, mortality rates are only slightly higher, due in large part to the later stage at diagnosis among African Americans. Incidence and mortality rates for Hispanics and Asians/Pacific Islanders are lower than those for whites and African Americans. Overall incidence and mortality rates have changed very little for most racial and ethnic groups over the past 20 years. Incidence rates of bladder cancer are about four times higher in men than in women. Since 1998, mortality rates have been stable in men and slowly declining in women.

It is estimated that approximately \$3.5 billion<sup>1</sup> is spent in the United States each year on bladder cancer 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/>.

<sup>1</sup> Cancer Trends Progress Report (<http://progressreport.cancer.gov/>), in 2006 dollars.

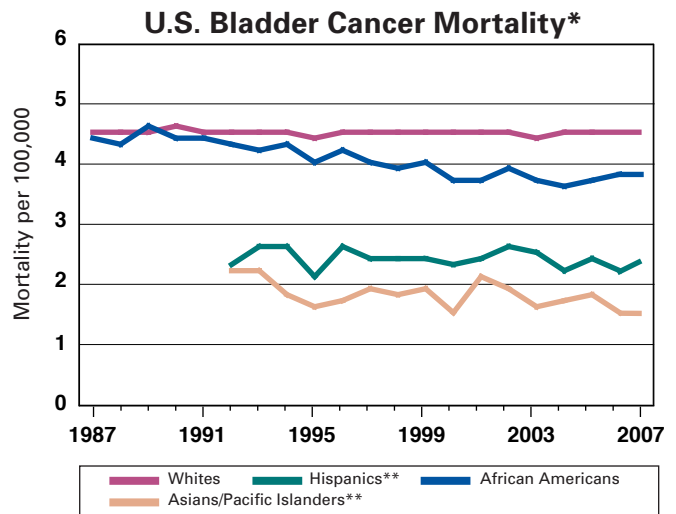
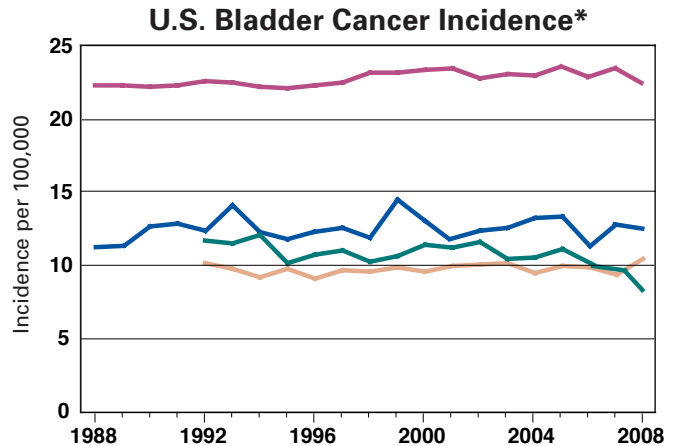
## Trends in NCI Funding for Bladder Cancer Research

The National Cancer Institute's (NCI) investment<sup>2</sup> in bladder cancer research increased from \$19.8 million to \$25.9 million between fiscal years (FY) 2007 and 2009 before decreasing to \$22.6 million in FY 2010. In addition, NCI supported \$3.1 million in bladder cancer research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).<sup>3</sup>

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

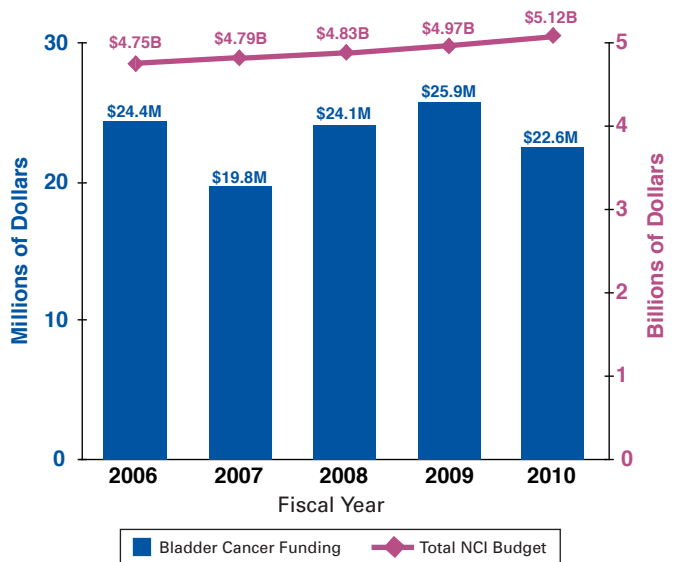
<sup>2</sup> The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see <http://www.nih.gov/about/>.

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



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

## NCI Bladder Cancer Research Investment

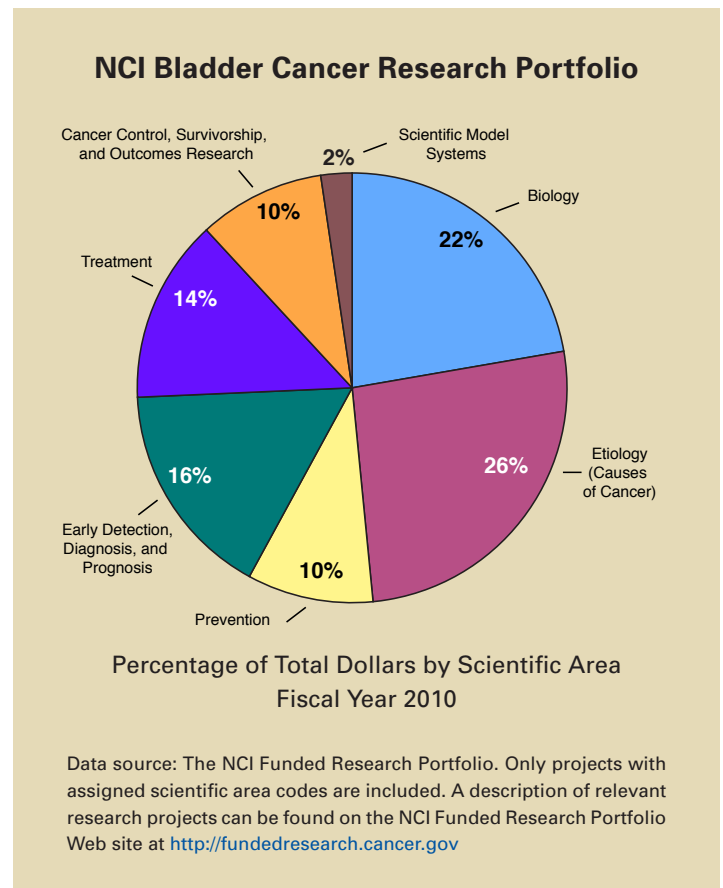


## Examples of NCI Activities Relevant to Bladder Cancer

- The **Prostate and Urologic Cancer Research Group** conducts and supports clinical trials, biomarker discovery, and technology development for prostate and bladder cancers. <http://prevention.cancer.gov/programs-resources/groups/pucrg>
- The **Mouse Models of Human Cancers Consortium (MMHCC)** has developed several bladder cancer models that are available to the research community. <http://emice.nci.nih.gov/>
- The **New England Bladder Cancer Study** is exploring why mortality rates for bladder cancer are higher in New England compared with the rest of the country. Investigators are examining whether drinking well water contaminated with arsenic and smoking fewer cigarettes over a long period of time compared with smoking more cigarettes over a shorter time are related to higher bladder cancer rates. <http://dceg.cancer.gov/research/healthdisparities/bladder>
- Investigators participating in the **International Consortium of Bladder Cancer** coordinate research activities and pool data across ongoing and completed bladder cancer epidemiology studies. <http://icbc.cancer.gov/>
- The **Prevention Agents Program** provides scientific and administrative oversight for chemoprevention agent development from preclinical research to early phase I studies. The program is currently supporting research on several agents for potential chemoprevention of bladder cancer. <http://prevention.cancer.gov/programs-resources/groups/cad/programs/agents>
- One genitourinary-cancer-specific **Specialized Program of Research Excellence (SPORE)** is developing new indicators to predict the behavior of individual bladder cancers by using genetic markers to address the entire spectrum of bladder cancer. <http://trp.cancer.gov/spores/bladder.htm>

## Selected Advances in Bladder Cancer Research

- Researchers demonstrated that **mustard seed powder is a good delivery vehicle for a chemical called AITC** that has been shown to slow growth and block muscle invasion of bladder cancer in a rat model of the disease. <http://www.ncbi.nlm.nih.gov/pubmed/20889681>
- A genome-wide association study has identified **three new regions in the genome** that are associated with increased bladder cancer risk. [http://dceg.cancer.gov/newsletter/mar2011/0311\\_scientifichighlights.shtml](http://dceg.cancer.gov/newsletter/mar2011/0311_scientifichighlights.shtml) and <http://www.ncbi.nlm.nih.gov/pubmed/20972438>
- Researchers have found that among male smokers, **lower levels of vitamin D** are linked to increased bladder cancer risk. [http://dceg.cancer.gov/newsletter/mar2011/0311\\_scientifichighlights.shtml](http://dceg.cancer.gov/newsletter/mar2011/0311_scientifichighlights.shtml) and <http://www.ncbi.nlm.nih.gov/pubmed/20978193>
- A study has identified **several epigenetic markers** (modifications of gene activity that do not involve alteration of the genetic code) of aggressive bladder cancer. <http://www.ncbi.nlm.nih.gov/pubmed/20808801>



- The **What You Need to Know About™ Bladder Cancer** booklet discusses possible causes, symptoms, diagnosis, treatment, and rehabilitation for bladder cancer. Information specialists can also answer questions about cancer at 1-800-4-CANCER. <http://www.cancer.gov/cancertopics/wyntk/bladder>
- The **NCI Bladder Cancer Home Page** provides up-to-date information on bladder cancer treatment, prevention, genetics, causes, screening, testing, and other related topics. <http://www.cancer.gov/cancertopics/types/bladder>