

## Cancer Snapshots: Disease Focused and Other Snapshots

### A Snapshot of Prostate Cancer

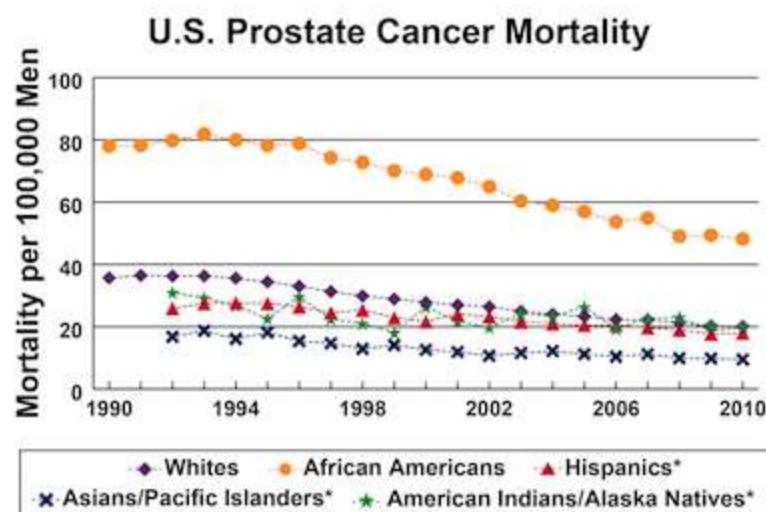
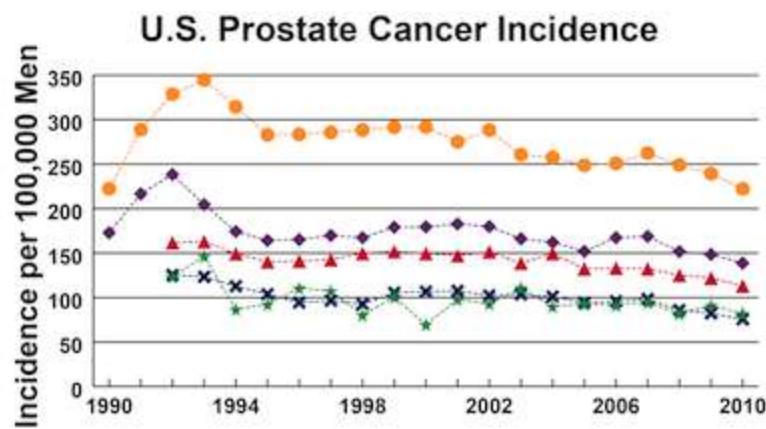
#### Incidence and Mortality

Prostate cancer is the second most common cancer and the second leading cause of cancer-related death in men in the United States. It is estimated that, in 2013, nearly 239,000 men will be diagnosed with prostate cancer in the United States, and nearly 30,000 men will die of the disease. African-American men have a higher incidence rate than and at least twice the mortality rate of men of other racial/ethnic groups.

Prostate cancer incidence rates in the United States rose dramatically in the late 1980s, when screening with the prostate-specific antigen (PSA) test came into wide use. Since the early 1990s, prostate cancer incidence has been declining. Mortality rates for prostate cancer also have declined since the mid-1990s.

Well-established risk factors for prostate cancer include increasing age, African ancestry, and a family history of prostate cancer. There is no standard or routine screening test for prostate cancer. Standard treatments for prostate cancer include watchful waiting or active surveillance, surgery, radiation therapy, hormone therapy, chemotherapy, and biological therapy.

It is estimated that approximately \$11.9 billion<sup>1</sup> is spent each year in the United States on prostate cancer treatment.



\*Incidence and mortality data not available before 1992.

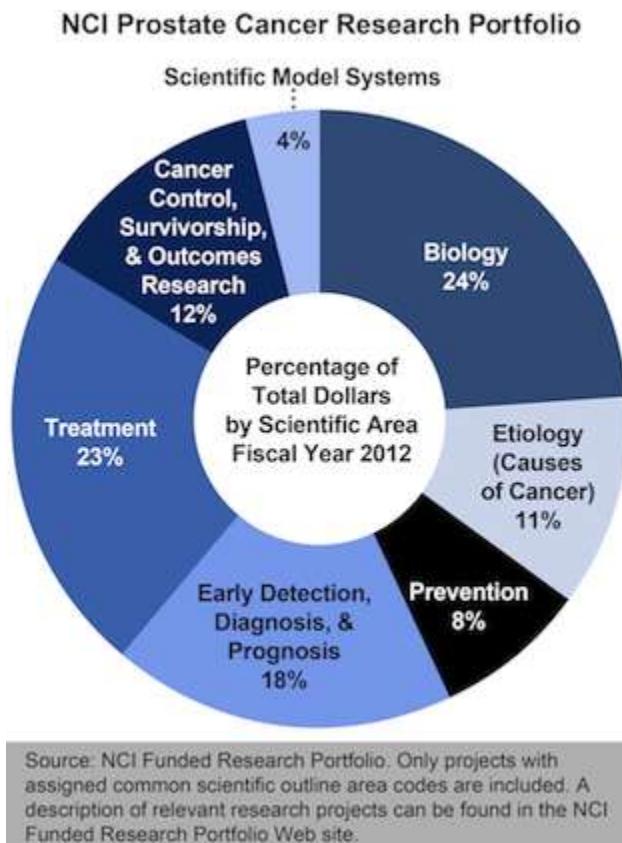
Source: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at the SEER Web site.

## Examples of NCI Activities Relevant to Prostate Cancer

- NCI currently supports an extended follow-up of the Prostate, Lung, Colorectal, and Ovarian Cancer (PLCO) Screening Trial, a large-scale clinical trial that examined whether specific cancer-screening tests reduce deaths from these cancers. For prostate cancer, long-term follow-up data from the trial provided no evidence that annual screening with digital rectal exam and a PSA blood test reduces prostate cancer mortality.
- The Prostate Cancer Modeling project, conducted by the Cancer Intervention and Surveillance Modeling Network (CISNET), explores the natural history of prostate cancer and its possible implications for screening efficacy, screening policy, overdiagnosis, novel biomarkers, outcomes of care, and health disparities in prostate cancer screening and treatment.
- The Prostate Cancer Program includes staff from NCI's Medical Oncology, Radiation Oncology, and Urologic Oncology branches, who conduct clinical training, clinical research, and clinical care to improve the management of patients with prostate cancer.
- The Tumor Microenvironment Network (TMEN) is exploring the role of the microenvironment—the cells and blood vessels that feed a tumor—in tumor initiation and progression. TMEN investigators are studying how prostate cancer cells travel to the bone marrow and form metastases there.
- Sipuleucel-T (Provenge), a therapeutic cancer vaccine, slows tumor growth by boosting a patient's immune response to the tumor; it is the focus of an NCI-sponsored trial, Sipuleucel-T With or Without Radiation Therapy in Treating Patients With Hormone-Resistant Metastatic Prostate Cancer.
- Eight prostate-cancer-specific Specialized Programs of Research Excellence (SPOREs) are conducting studies to better understand how prostate cancer develops, to improve clinical decision-making for administering hormone therapy, to prevent adverse effects in survivors, to understand the genetics of tumor development and progression, and to identify prognostic markers for prostate cancer.

## Selected Advances in Prostate Cancer Research

- Results of a randomized clinical trial showed that, for men with localized prostate cancer detected by PSA testing, radical prostatectomy does not reduce mortality (from prostate cancer or from any cause) as compared with observation. Published July 2012. [PubMed Abstract]
- Benign cells in the tumor microenvironment, when exposed to anticancer agents that damage DNA, secrete molecules that can promote prostate tumor cell treatment resistance and disease progression. Published September 2012. [PubMed Abstract]
- The protein Siah2 may promote the growth of castration-resistant prostate cancer by influencing which of the genes that are regulated by the androgen receptor will be expressed. Published March 2013. [PubMed Abstract]
- Men with more variable telomere length among prostate cancer cells and shorter telomere length in prostate-cancer-associatedstromal cells had poorer prognosis. Published June 2013. [PubMed Abstract]
- See this PubMed list of selected free full-text journal articles on NCI-supported research relevant to prostate cancer. You can also search PubMed for additional scientific articles or to complete a search tutorial.



## Trends in NCI Funding for Prostate Cancer Research

The National Cancer Institute's (NCI) investment<sup>2</sup> in prostate cancer research increased from \$285.4 million in fiscal year (FY) 2008 to \$300.5 million in FY 2010 before decreasing to \$265.1 million in FY 2012. In addition to this funding, NCI supported

\$68.4 million in prostate cancer research in FY 2009 and FY 2010 using funding from the American Recovery and Reinvestment Act (ARRA).

### Additional Resources for Prostate Cancer

#### What You Need To Know About™ Prostate Cancer

Describes treatment options, types of cancer doctors, second opinion, follow-up care, and sources of support for someone recently diagnosed with prostate cancer.

#### NCI Prostate Cancer Home Page

Information about prostate cancer treatment, prevention, genetics, causes, screening, clinical trials, research and statistics from the National Cancer Institute.

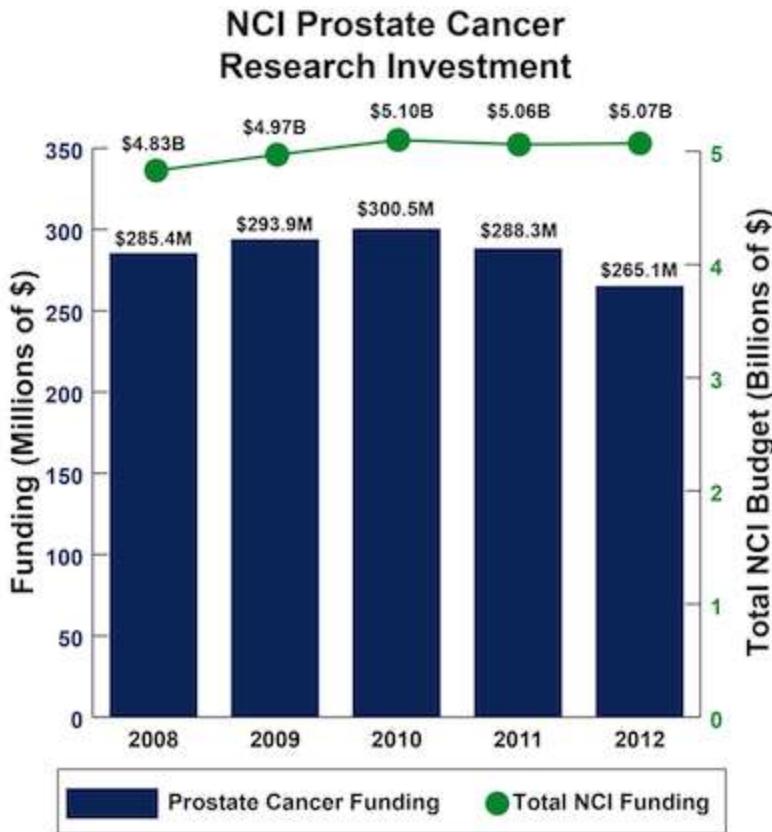
#### Prostate-Specific Antigen (PSA) Test Fact Sheet

A fact sheet that describes the PSA screening test for prostate cancer and explains the benefits and limitations of the test.

#### Prostate Cancer Treatment (PDQ®)

Expert-reviewed information summary about the treatment of prostate cancer.

#### Clinical Trials for Prostate Cancer



Source: NCI Office of Budget and Finance.

<sup>1</sup> Cancer Trends Progress Report, in 2010 dollars.

<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 About NIH.

=====

Found at:

<http://www.cancer.gov/researchandfunding/snapshots/prostate>

Posted at www.cancer.gov on 12-2-2013