

# Pancreatic Cancer

## Incidence and Mortality Rate Trends

In the United States, pancreatic cancer is the fourth leading cause of cancer-related death in both men and women. Because it is usually diagnosed at an advanced stage, the survival rate is poor compared with those for other cancer types. Unfortunately, overall pancreatic cancer incidence and mortality rates have changed very little throughout the past three decades.

African Americans have higher pancreatic cancer incidence and mortality rates than do whites. Pancreatic cancer incidence and mortality rates are also higher in men than in women.

It is estimated that approximately \$1.9 billion<sup>1</sup> is spent in the United States each year on pancreatic 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 Pancreatic Cancer Research

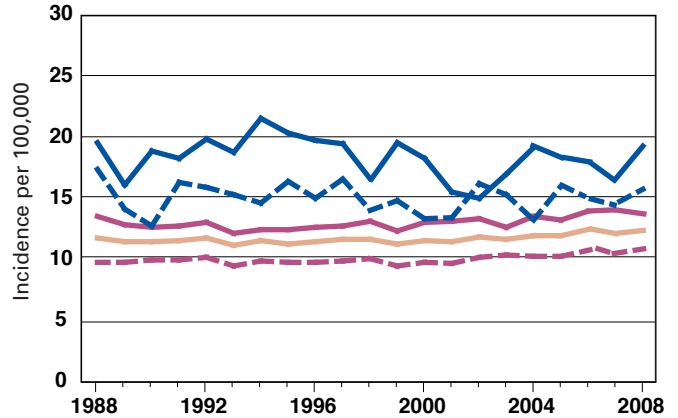
The National Cancer Institute's (NCI) investment<sup>2</sup> in pancreatic cancer research increased from \$74.2 million in fiscal year (FY) 2006 to \$97.1 million in FY 2010. In addition, NCI supported \$14.3 million in pancreatic cancer research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).<sup>3</sup>

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

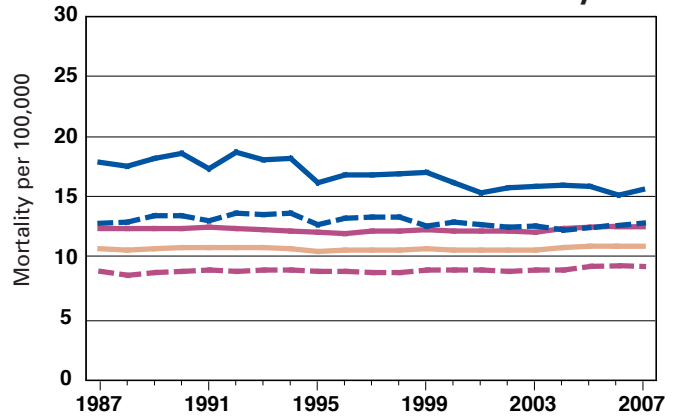
<sup>2</sup> The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see <http://www.nih.gov/about/>.

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

U.S. Pancreatic Cancer Incidence

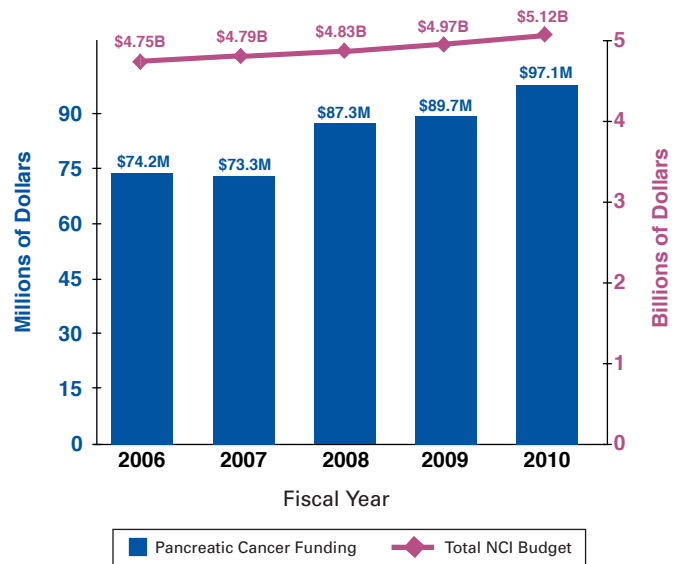


U.S. Pancreatic Cancer Mortality



White Males White Females Overall Rate  
African-American Males African-American Females

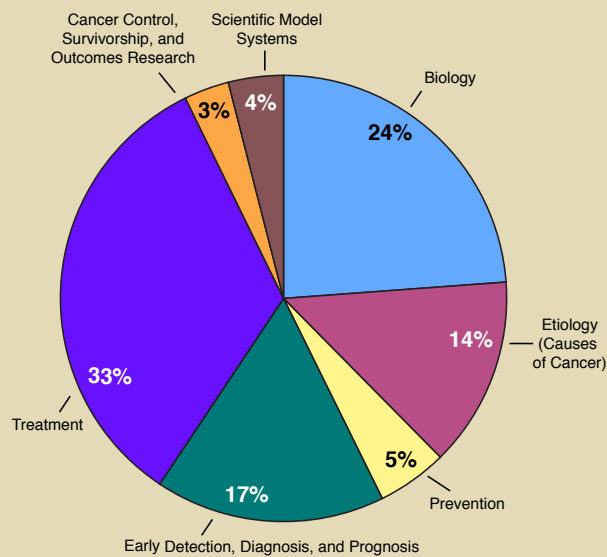
NCI Pancreatic Cancer Research Investment



## Examples of NCI Activities Relevant to Pancreatic Cancer

- The **Early Detection Research Network (EDRN)** is identifying and testing new biomarkers to enhance cancer detection and risk assessment. One EDRN-supported project is studying stem cell biomarkers for the early detection of pancreatic cancer. <http://edrn.nci.nih.gov>
- The publication **Pancreatic Cancer: A Summary of NCI's Portfolio and Highlights of Recent Research Progress** provides a detailed account of NCI's investment in pancreatic cancer research from 2000-2009. <http://www.cancer.gov/researchandfunding/reports/pancreatic-research-progress.pdf>
- **NCI Investment in Pancreatic Cancer Research Action Plan for FY2011** delineates research activities planned for FY2011 as well as emerging areas of focus for future studies. <http://www.cancer.gov/researchandfunding/reports/pancreatic-action-plan.pdf>
- NCI supports **Pilot Studies in Pancreatic Cancer** focused on the biology, etiology, detection, prevention, and treatment of the disease. <http://grants.nih.gov/grants/guide/pa-files/PA-08-208.html> and <http://grants.nih.gov/grants/guide/pa-files/PA-08-209.html>
- The **Pancreatic Cancer Epidemiology Consortia** includes three research consortia that bring together scientists with various expertise to improve the understanding of the causes and natural history of pancreatic cancer. <http://epi.grants.cancer.gov/Consortia/tables/pancreatic.html>
- Two pancreatic-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are conducting research to facilitate the early detection and treatment of pancreatic cancer. <http://trp.cancer.gov/spores/pancreatic.htm>

## NCI Pancreatic 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™ Cancer of the Pancreas** booklet describes possible causes of the disease and contains information about 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/pancreas>
- The **NCI Pancreatic Cancer Home Page** provides up-to-date information on pancreatic cancer treatment, prevention, genetics, causes, screening, testing, and other related topics. <http://www.cancer.gov/cancertopics/types/pancreatic>

## Selected Advances in Pancreatic Cancer Research

- In a pooled analysis of clinical data, **higher body mass index was associated with an increased risk** of developing pancreatic cancer, independent of other risk factors. [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/20383573>
- Using a mathematical model to analyze genomic data, researchers have estimated that **pancreatic cancer may take over a decade to progress** from an initial genetic mutation to tumor formation. <http://www.cancer.gov/ncicancerbulletin/110210/page3> and <http://www.ncbi.nlm.nih.gov/pubmed/20981102>
- A genomic sequencing study has identified **genes that are frequently mutated in pancreatic neuroendocrine tumors**, a rare form of pancreatic cancer. <http://www.cancer.gov/ncicancerbulletin/012511/page2> and <http://www.ncbi.nlm.nih.gov/pubmed/21252315>
- A large-scale quantitative proteomics study identified a composite marker of two proteins, **TIMP1 and ICAM1, that was able to distinguish people with pancreatic cancer from those without it** and may be a potential biomarker for blood-based detection of pancreatic cancer. <http://www.ncbi.nlm.nih.gov/pubmed/21443201>