

# Ovarian Cancer

## Incidence and Mortality Rate Trends

Ovarian cancer accounts for approximately 3 percent of all cancers in women and is the fifth leading cause of cancer-related death among women in the United States. The incidence rate for ovarian cancer has been declining since the mid 1980s.

Ovarian cancer has the highest mortality of all cancers of the female reproductive system. This reflects, in part, a lack of early symptoms and effective ovarian cancer screening tests. Thus, ovarian cancer is often diagnosed at an advanced stage, after the cancer has spread beyond the ovary. White women have higher incidence and mortality rates than women of other racial and ethnic groups.

It is estimated that approximately \$4.4 billion<sup>1</sup> is spent in the United States each year on ovarian 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 Ovarian Cancer Research

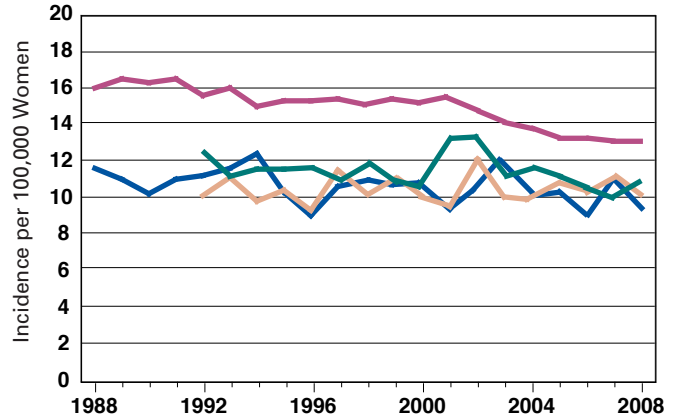
The National Cancer Institute's (NCI) investment<sup>2</sup> in ovarian cancer research increased from \$95.1 million in fiscal year (FY) 2006 to \$112.3 million in FY 2010. In addition, NCI supported \$22 million in ovarian cancer research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).<sup>3</sup>

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

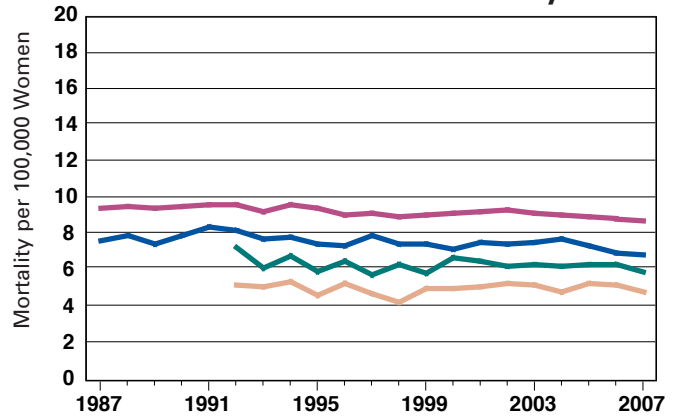
<sup>2</sup> The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see <http://www.nih.gov/about/>.

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

U.S. Ovarian Cancer Incidence\*



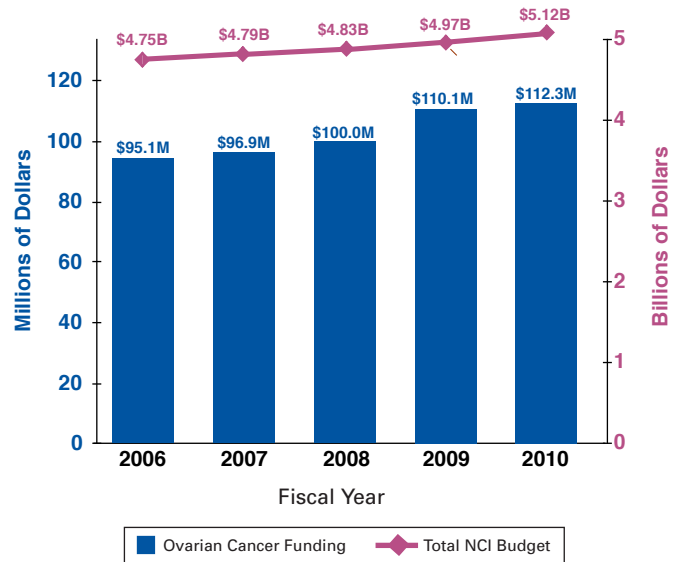
U.S. Ovarian Cancer Mortality\*



Whites (pink line), Hispanics\*\* (green line), African Americans (blue line), Asians/Pacific Islanders\*\* (orange line)

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

NCI Ovarian Cancer Research Investment

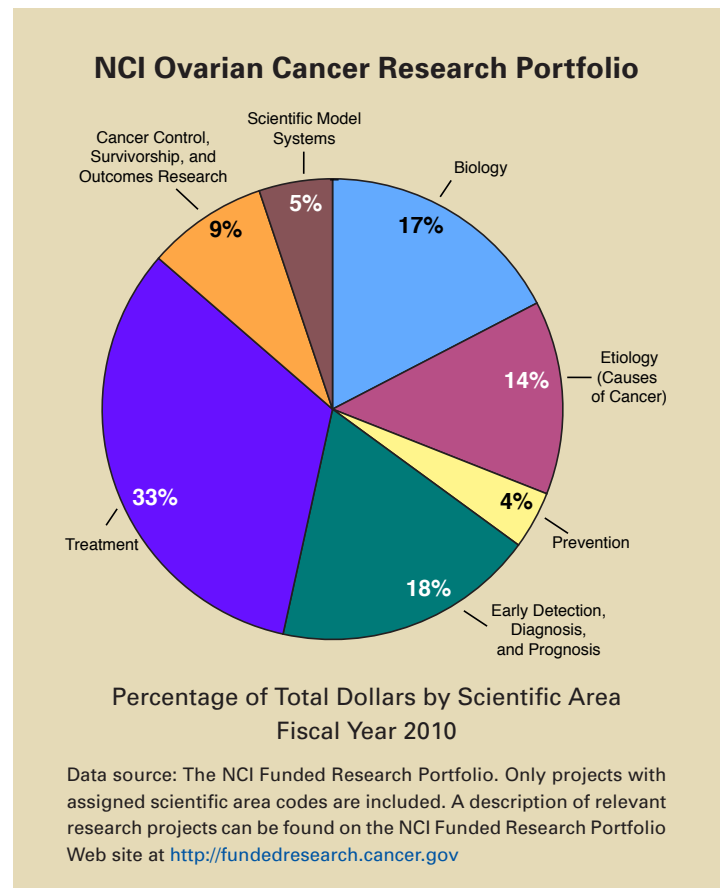


## Examples of NCI Activities Relevant to Ovarian Cancer

- The **Cancer Genome Atlas (TCGA)** is assessing the feasibility of systematically identifying the major genomic changes involved in 20 cancers using state-of-the-art genomic analysis technologies. The molecular characterization data set is available for ovarian cancer. Researchers are hoping to identify gene expression changes linked to differences in patient survival and in response to therapy and to explore the role of gene duplications and deletions in ovarian cancer development. <http://cancergenome.nih.gov/>
- The **Screening Methods for Finding Ovarian Cancer** trial is studying screening methods to identify women at increased risk of ovarian cancer. The study is also identifying new prevention approaches and novel therapies. <http://www.cancer.gov/clinicaltrials/search/view?cdrid=67757&protocolsearchid=3485672&version=patient>
- The **Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO)**, a large-scale clinical trial, is determining whether specific cancer screening tests reduce deaths from these cancers. Researchers tested whether a blood test for the tumor marker CA-125 and transvaginal ultrasound would reduce the number of ovarian cancer deaths. <http://dcp.cancer.gov/plco>
- The **Ovarian Cancer Epidemiology Consortia** includes four research consortia that conduct studies on genetic determinants of ovarian cancer, new clinical treatments, prevention measures, and diagnostic tests to improve ovarian cancer outcomes. <http://epi.grants.cancer.gov/Consortia/tables/ovarian.html>
- NCI funds seven **Tumor Glycome Laboratories**, three of which seek to identify, develop, and validate ovarian cancer biomarkers based on complex sugar molecules attached to proteins and lipids. <http://prevention.cancer.gov/programs-resources/groups/cb/programs/glycome>
- Five ovarian-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are aimed at developing early detection,

## Selected Advances in Ovarian Cancer Research

- Results from the Prostate, Lung, Colorectal, and Ovarian (PLCO) cancer screening trial show that **annual screening with the tumor marker CA-125 and transvaginal ultrasound does not reduce ovarian cancer mortality** compared with usual care. <http://www.ncbi.nlm.nih.gov/pubmed/21642681>
- Recent studies have revealed that **mutations in a gene called ARID1A** are linked to the development of two rare forms of ovarian cancer. <http://www.cancer.gov/ncicancerbulletin/092110/page3>, <http://www.ncbi.nlm.nih.gov/pubmed/20826764>, and <http://www.ncbi.nlm.nih.gov/pubmed/20942669>
- Two studies have shown that **signaling through a pathway regulated by a protein called NF-κB** is overactive in some aggressive ovarian cancers, providing a potential therapeutic target. <http://www.ncbi.nlm.nih.gov/pubmed/20564628> and <http://www.ncbi.nlm.nih.gov/pubmed/20424119>
- Researchers have identified **variants at one genetic locus that are associated with the risk of developing serous epithelial ovarian cancer**. [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/20852633>



screening, prevention, and therapeutic tools for ovarian cancer. <http://trp.cancer.gov/spores/ovarian.htm>

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