

Cervical Cancer

Incidence and Mortality Rate Trends

Although cervical cancer incidence and mortality rates have declined approximately 50 percent in the United States over the past three decades, the disease remains a serious health threat. Incidence rates for Hispanic women are higher than those for non-Hispanic women. Even though the mortality rate for African-American women has declined more rapidly than the rate for white women, the African-American mortality rate continues to be at least double that of whites. Geographic and socioeconomic disparities in cervical cancer mortality also exist.

Cervical cancer is preventable and curable if detected early. Important strategies to reduce the risk of cervical cancer include screening with the Papanicolaou (Pap) and, for some women, human papillomavirus (HPV) tests, as well as prevention of HPV infection with the HPV vaccine. Researchers have identified certain types of HPV that are transmitted through sexual contact as the cause of nearly all cervical cancers.

It is estimated that approximately \$1.4 billion¹ is spent in the United States each year on cervical 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/>.

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

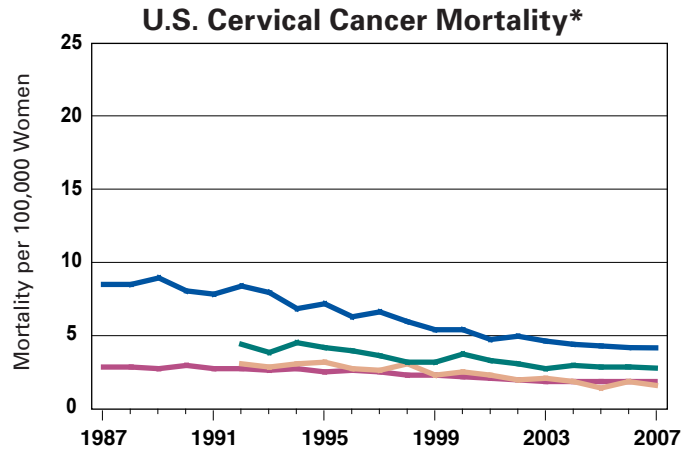
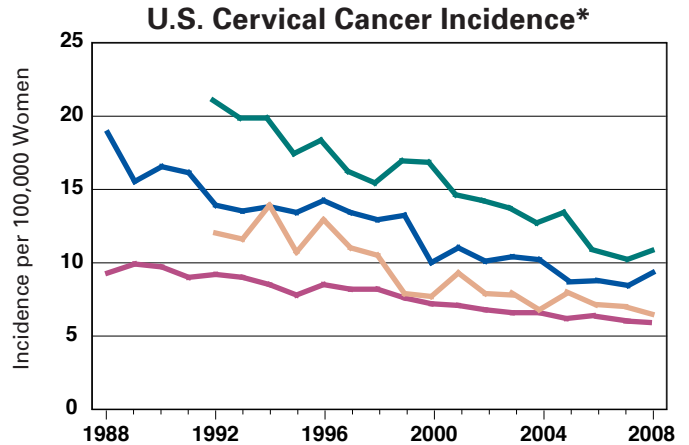
Trends in NCI Funding for Cervical Cancer Research

The National Cancer Institute's (NCI) investment² in cervical cancer research decreased from \$83.3 million to \$70.8 million between fiscal years (FY) 2006 and 2009 before increasing again to \$76.5 million in FY 2010. In addition, NCI supported \$14.3 million in cervical 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/>.

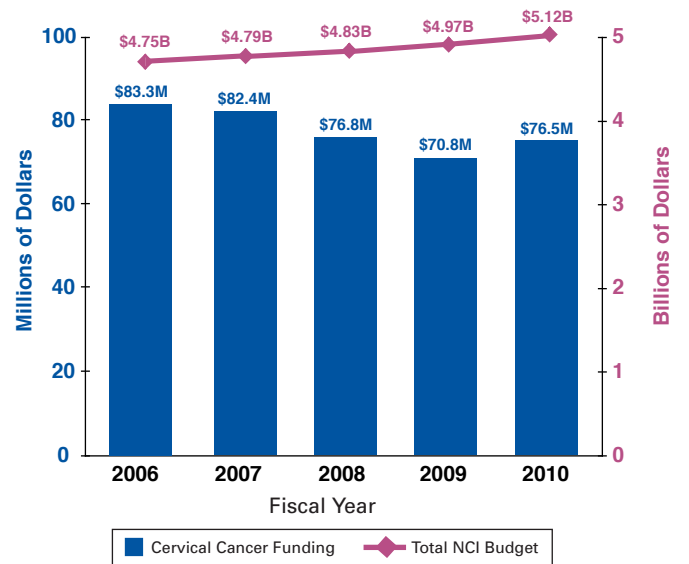
³ For more information regarding ARRA funding at NCI, see <http://www.cancer.gov/aboutnci/recovery/recoveryfunding>.



Legend: Whites (purple), Hispanics** (green), African Americans (blue), Asians/Pacific Islanders** (orange)

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

NCI Cervical Cancer Research Investment

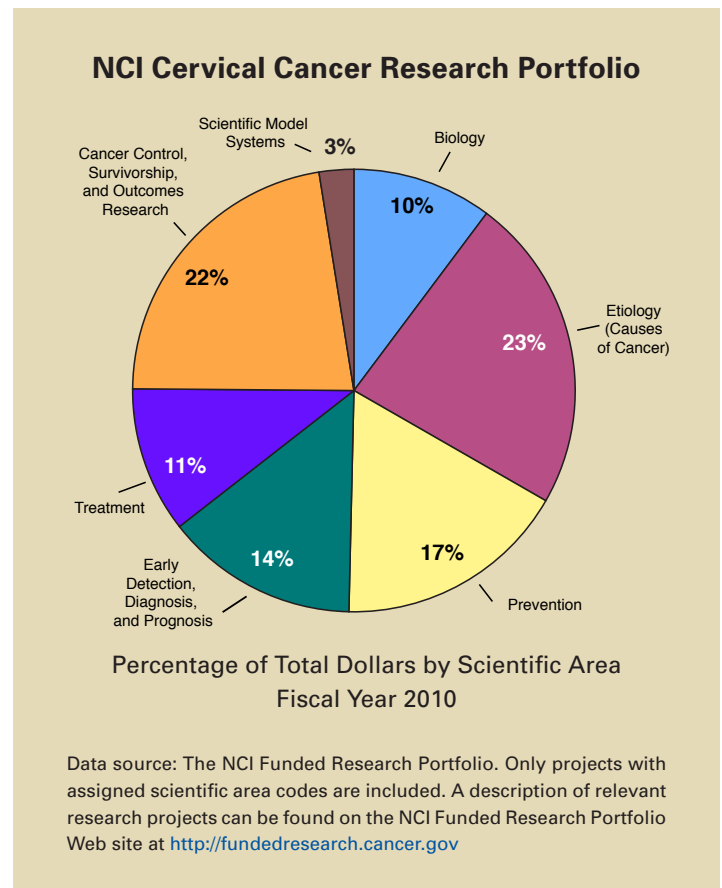


Examples of NCI Activities Relevant to Cervical Cancer

- The **Centers for Population Health and Health Disparities** support transdisciplinary research on interactions of the social and physical environment, behavioral factors, and biologic pathways that determine health and disease in populations. One Center is focusing on understanding why high rates of cervical cancer incidence and mortality are observed in Appalachian Ohio. <http://cancercontrol.cancer.gov/populationhealthcenters/index.html>
- NCI's **Division of Cancer Epidemiology and Genetics (DCEG)** supports a clinical trial to test the efficacy of a vaccine to prevent cervical cell abnormalities or cervical cancer (<http://dceg.cancer.gov/veb/research/cervical>) and studies investigating low-cost methods for HPV screening. <http://dceg.cancer.gov/hreb/research/cervical-hpv>
- NCI is funding research projects investigating **Biomarkers of Infection-Associated Cancers**. This work will help scientists understand why only a small percentage of women infected with HPV develop cervical cancer. <http://grants.nih.gov/grants/guide/pa-files/PA-11-158.html>
- The **Breast and Gynecologic Cancer Research Group** supports studies on prevention and early detection of cervical cancer. These include development of new agents, biomarkers, and technologies. <http://prevention.cancer.gov/programs-resources/groups/bgcrgr>
- NCI's **Population-Based Research Optimizing Screening through Personalized Regimens (PROSPR)** program supports multisite, coordinated transdisciplinary research on cervical cancer screening to better understand how to improve the screening process (i.e., recruitment, screening, diagnosis, referral for treatment). <http://appliedresearch.cancer.gov/funding/prospr/>
- Gynecologic-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are moving results from the laboratory to the clinical setting. One SPORE is specifically focused on cervical cancer and includes projects spanning

Selected Advances in Cervical Cancer Research

- Researchers have determined that *Chlamydia trachomatis* **infection** is not associated with an increased risk of cervical premalignancy. <http://www.ncbi.nlm.nih.gov/pubmed/21098758>
- A large study has found that **new HPV infections are less frequent as women age and seldom progress to cervical precancer in older women**, suggesting little benefit from preventive vaccination or frequent HPV screening in that age group. http://dceg.cancer.gov/newsletter/jul10/710_scientifichighlights.shtml and <http://www.ncbi.nlm.nih.gov/pubmed/20157096>
- Researchers have found evidence that **different host genes are associated with risk of two critical steps in the natural history of cervical cancer**: persistence of HPV infection and progression to cervical precancer or cancer. http://dceg.cancer.gov/newsletter/jul10/710_scientifichighlights.shtml and <http://www.ncbi.nlm.nih.gov/pubmed/20084279>
- Personal lubricants containing an **inexpensive seaweed component—carrageenan**—may provide effective protection against HPV infection in women. http://home.ccr.cancer.gov/connections/2010/Vol4_No2/news.asp



the fields of screening, diagnosis, prevention, and treatment. <http://trp.cancer.gov/spores/cervical.htm>

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