



The National Institutes of Health & the National Cancer Institute: Saving Lives & Supporting the Economy

The National Institutes of Health (NIH) and the National Cancer Institute (NCI) are the foundation of our national cancer research program and support research in every state. Today, that program is making remarkable progress in every area of discovery to improve cancer prevention, early detection, treatment, and care.

The strong returns on our nation's research investment are clear:

- Cancer death rates from all cancer combined have continued to decline for men and women overall, and for most racial and ethnic populations in the United States. Between 1990 and 2009, **overall death rates decreased by 20%**.
- This translates to **almost 1.2 million deaths from cancer that were avoided**.
- From 1991 to 2010, the **greatest drop in cancer death rates**, 55 percent, was seen among African American men aged 40 years to 49 years. Notably, African American men experienced the largest drop within every 10-year age group.
- We now have **nearly 14 million cancer survivors** in the U.S. - living proof of the gains we've made.
- Today, **two-thirds of patients survive five years or longer** after their cancer diagnosis, compared to only half of patients forty years ago.

Highlights of Recent NIH-Funded Research Breakthroughs

- **Potential drug targets identified in common childhood brain cancer:** Researchers studying the genetic roots of the most common malignant childhood brain tumor, medulloblastoma, have discovered missteps in three of the four subtypes of the cancer that involve genes already targeted for drug development. In all, 41 genes were associated for the first time to medulloblastoma by the NCI-funded St. Jude Children's Research Hospital - Washington University Pediatric Cancer Genome Project.
- **Researchers discover new mechanism behind resistance to cancer treatment:** Developing resistance to chemotherapy is a nearly universal, ultimately lethal consequence for cancer patients with solid tumors - such as those of the breast, prostate, lung and colon - that have metastasized, or spread, throughout the body. A team at the Fred Hutchinson Cancer Research Center has discovered a key factor that drives this drug resistance - information that ultimately may be used to improve the effectiveness of therapy and buy time for patients with advanced cancer.
- **Study finds LIFR protein suppresses breast cancer metastasis:** A receptor protein suppresses local invasion and metastasis of breast cancer cells, the most lethal aspect of the disease, according to the University of Texas MD Anderson Cancer Center. High-throughput RNA sequencing identified the leukemia inhibitory factor receptor (LIFR) as a novel suppressor of breast cancer metastasis, and this would not have been possible without NCI funding.

Economic Benefits to Communities Receiving NIH Funding

NIH funding stimulates local economies. More than 80 percent of its budget funds almost 50,000 extramural grants to more than 300,000 researchers at over 2,500 universities, medical schools, and other research institutions in every state.

For example, in fiscal year 2012, alone:

- Each dollar of NIH's \$22.02 billion investment generated more than twice as much (\$57.8 billion) in new state business activity in the form of increased output of goods and services.
- NIH grants and contracts created and supported more than 402,000 jobs that generated substantial wages in the 50 states, and led to the creation of additional jobs in the private sector (e.g., pharmaceutical, biotechnology, medical device and medical lab testing jobs).