

# RESEARCH FUNDING BY THE NATIONAL CANCER INSTITUTE: FROM PIPELINE TO PATIENT

Today's cancer breakthroughs are the result of decades of federal investment in cancer research. Sustaining the investment in the National Cancer Institute (NCI) is essential to transform research discoveries into new treatments and improve care for millions of people with cancer.



CONGRESS FUNDS NCI



NCI DISTRIBUTES FUNDING

## TIMELINE

Several months to years

**BASIC RESEARCH** in laboratories results in discoveries like genetic alterations that can cause cancer and how cancer interacts with our immune system.



### KEY MILESTONE

NCI-funded research in the late 1980s led to a precursor to CAR T-cell therapy, which involves genetically re-engineering a patient's own immune cells to attack cancer. The first CAR T-cell therapy was successfully tested in patients in 2010 and approved by FDA in 2017.

3 to 10 years

**TRANSLATIONAL RESEARCH** turns basic research discoveries into new diagnostic tests and novel treatments that can be clinically tested.



### KEY MILESTONE

NCI-funded translational research shed light on vulnerabilities in soft tissue sarcoma cells, paving the way for a new first-line treatment for soft tissue sarcoma - the only one approved by FDA in the last 40 years.

3 years to over a decade

**CLINICAL RESEARCH** studies the safety and efficacy of new treatments in humans and examines how they compare to existing treatments.



**TREATMENT TRIALS** test new therapies or new ways of using existing therapies. NCI generally funds trials not supported by industry, including studies on the comparative effectiveness and safety of drugs and trials that test a combination of therapies.

### KEY MILESTONE

An NCI-funded study found that for some people with colon cancer, a 3-month course of chemotherapy after surgery was nearly as effective as and resulted in fewer side effects than a 6-month course.

**PREVENTION & SCREENING TRIALS** test new methods for reducing the risk of cancer and detecting it early.

### KEY MILESTONE

NCI's 10-year National Lung Screening Trial found that screening with CT scans reduced the risk of lung cancer death by 20% in current and former heavy smokers compared to chest X-rays.

Ongoing

**FDA APPROVAL** allows companies to market new drugs that are proven safe and effective in clinical trials.

Through **CLINICAL GUIDELINES**, research findings help shape standards of care and are translated into practice, where they reach patients.

PATIENTS BENEFIT

Federal funding for cancer research is vital to our future. Americans are counting on our leaders to invest in biomedical innovation that will deliver the next generation of cancer advances to patients.

For additional information and timeline references, please visit [asco.org/nihfunding](http://asco.org/nihfunding).

To learn more about major advances in cancer, visit [asco.org/cancer-progress](http://asco.org/cancer-progress).