



National Cancer Institute

CONGRESSIONAL JUSTIFICATION
FY 2024

Department of Health and Human Services
National Institutes of Health

NIH

NATIONAL
CANCER
INSTITUTE

[THIS PAGE INTENTIONALLY LEFT BLANK]

DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH

National Cancer Institute (NCI)

FY 2024 Budget Table of Contents

Director’s Overview.....	3
IC Fact Sheet.....	7
Major Changes.....	9
Budget Mechanism Table.....	11
Appropriations Language.....	12
Summary of Changes.....	13
Budget Graphs.....	14
Organization Chart.....	15
Budget Authority by Activity Table.....	16
Justification of Budget Request.....	17
Appropriations History.....	30
Authorizing Legislation.....	31
Amounts Available for Obligation.....	32
Budget Authority by Object Class.....	33
Salaries and Expenses.....	34
Detail of Full-Time Equivalent Employment (FTE).....	35
Detail of Positions.....	36

General Notes

1. FY 2023 Enacted levels cited in this document include the effects of the FY 2023 HIV/AIDS transfer, as shown in the Amounts Available for Obligation table.
2. Detail in this document may not sum to the subtotals and totals due to rounding.

Cover Photo: The cover image displays a map of the mobility of RAS proteins in the plasma membrane of a cell. RAS genes make proteins involved in cell signaling that controls cell growth and death. Nearly 20% of all cancers – including more than 85% of pancreatic cancers and 55% of colorectal cancers – are caused by mutations of the RAS family of genes. This translates to more than 250,000 new U.S. cancer cases per year.

Understanding why RAS moves and how it interacts with other proteins within cells is essential to understanding RAS biology and developing treatments for patients with cancers driven by RAS mutations.

[THIS PAGE INTENTIONALLY LEFT BLANK]

Director's Overview

As the National Cancer Institute (NCI) budget and priorities demonstrate, this is a watershed moment for cancer patients and cancer science.

In February 2022, President Biden unveiled a series of bold, compelling goals to end cancer as we know it: cut America's age-adjusted death rate due to cancer by 50 percent over 25 years, improve the experience of patients and their families living with and surviving cancer, and ending cancer as we know it today.



NCI Director Monica Bertagnolli, M.D.

Flanked by First Lady Jill Biden and Vice President Kamala Harris, and surrounded by patients, caregivers, advocates, cancer researchers, health care providers, and leaders in Congress and the Administration, the President outlined steps necessary to reach the ambitious, but achievable goals he set for the Cancer MoonshotSM. Since then, the President has kept a bright spotlight on initiatives to advance Cancer Moonshot goals.

The cancer research community is well known for its determination and focus on the needs of cancer patients and those at risk of cancer. The President's announcement further galvanized cancer researchers with new unity, hope, and purpose. Decades of NCI investment in basic, clinical, and translational research have yielded sustained progress. Since 1991, U.S. deaths from cancer have fallen by one-third. The opportunity to reduce mortality a further 50 percent – while fundamentally changing what it means to receive a cancer diagnosis – has infused the National Cancer Program with fresh enthusiasm and vigor about delivering results for patients.

As leader of the National Cancer Program, NCI has a central role in the Cancer Moonshot. However, NCI's responsibilities are nested within a broad, "whole of government" effort to make progress against cancer.

As evidence of the depth of the Cancer Moonshot commitment, during a 12-month period the Administration announced nearly 30 new federal programs, policies, and resources to deliver progress against cancer, and more are on the way. The breadth of these initiatives spans from NCI's Vanguard Study on multi-cancer detection tests and our Cancer Moonshot Scholars Program, to the Department of Veterans Affairs launch of a large-scale clinical trial to better diagnose liver cancer in U.S. veterans, to accelerating clean-up at Superfund sites.

NCI is also making a strategic contribution to the Cancer Moonshot by developing a National Cancer Plan. The plan will guide NCI efforts in all areas of cancer research and patient care. The National Cancer Plan will include priority NCI goals, strategies, and actions to fulfill Cancer Moonshot objectives.

At NCI, we understand that achieving the 25-year goal of the Cancer Moonshot requires a team approach with partners in government and throughout society. Success depends upon collaborating with industry, academic institutions, community cancer centers and more –

partners from across the full spectrum of the cancer enterprise. The same is true for NCI's National Cancer Plan. As we develop and refresh our plan, we invite the insights of patients, providers, researchers, and industry. NCI cannot and does not make progress alone.

Budget for NCI Cancer Moonshot Programs – The NCI budget for FY 2024 and beyond will support comprehensive programs to achieve the 25-year commitment to cut U.S. cancer deaths in half. Specifically, the FY 2024 budget provides an NCI budget increase of \$500 million for the Cancer Moonshot relative to the FY 2023 enacted level of \$216 million. The Budget also proposes to reauthorize the 21st Century Cures Act Beau Biden Cancer Moonshot – legislation that received broad, bipartisan Congressional support – and to provide \$2.9 billion in mandatory funding in 2025 and 2026, \$1.45 billion each year. This will enable NCI to lead a robust National Cancer Program that puts American innovation to work to cut cancer deaths in half and end cancer as we know it.

With these combined investments, NCI will swiftly advance Cancer Moonshot priorities through a coordinated, whole-of-government approach to reduce cancer deaths, ensure broad, equitable access to cancer prevention, treatment, and standards of care, and improve the lives and longevity of cancer patients and cancer survivors. We will expand our ability to deliver new approaches to prevent, diagnose, and treat cancers. We will also give special focus to rare cancers, cancers where we have no effective screening, and cancers that resist available treatments. The goal is to find answers faster and use the knowledge we gain to make a difference for all patients in all communities.

For NCI's FY 2024 budget, I want to highlight two prominent Cancer Moonshot priorities – doubling accruals to cancer clinical trials and transforming NCI's Cancer Moonshot Data Ecosystem into an engine that drives cancer discovery and ensures that the knowledge gained through research is broadly available to researchers and clinicians. These two priorities act as a foundation for all elements of the NCI Cancer Moonshot.

Doubling Accrual to Cancer Clinical Trials – It is through clinical trials that results from scientific discovery reach the patients and make a difference in their lives. Today, we have a wealth of opportunities yet to be realized because we need more and faster clinical trials.

Expanding clinical trials and doubling accrual of patients to trials are essential to ending cancer as we know it and to cutting cancer deaths in half. Doubling accruals has far-reaching benefits. Foremost among them is the opportunity to study more candidate interventions and determine more rapidly which interventions work for which patients – and in what settings – and deliver new study results faster than is possible today.

We have new tangible evidence of the value and importance of cancer clinical trials. A December 2022 analysis published in the *Journal of Clinical Oncology* revealed that during the past 40 years, U.S. cancer patients gained a remarkable 14.2 million years of additional life, thanks to the results of NCI trials funded through the National Clinical Trials Network (NCTN).¹ The 2022 study emphasizes the enormous benefits these clinical trials deliver and the

¹ <https://ascopubs.org/doi/full/10.1200/JCO.22.01826>

contribution that expanding trials and accruals can make to cutting cancer deaths in half and ending cancer as we know it.

How do these clinical studies deliver such compelling benefits? Clinical trials generate essential information about oncology drug safety and effectiveness that allows the U.S. Food and Drug Administration (FDA) to consider and approve new treatments and new uses for existing treatments. The results of these trials also include new methods to prevent and diagnose cancer.

However, clinical trials are not merely a gateway for new FDA approvals. NCI clinical trials also identify optimum approaches to achieve the best outcomes for cancer patients. Examples include trials that test combinations of therapies – surgery, radiation, chemotherapy, and drugs, including immunotherapies – to determine which offer the greatest benefit to patients or subgroups of patients. NCI trials also generate evidence to address questions such as how and when clinicians should deploy existing interventions to cancer patients, which treatments are best for high-risk patients, and whether specific approaches to treat cancer improve quality of life.

But there is more. Other benefits of doubling clinical trial accrual include the opportunity to achieve a more diverse pool of patients participating in clinical trials, such as those from populations that are underrepresented in clinical trials, patients from rural areas that currently have limited access to trials, and patients with comorbidities. Expanding participation in this way will yield trial data that allow doctors and patients to make better treatment decisions because trial results more accurately represent the overall population. This will ensure that the results seen in clinical trials better predict what will happen after a new intervention enters clinical practice.

As we double accrual, NCI will also expand support for trials that improve standards of cancer care and identify the best means to disseminate advances in care broadly and equitably. Known as implementation science, this research is vital to achieve the vision of the Cancer Moonshot and ensure that people in all communities benefit in a full and equitable way from cancer discovery. Communities can be quite distinct, which means that optimal uptake of a standard of care may require tailored approaches specific to individual communities. Quickly and thoughtfully disseminating research advances is one of many opportunities to reduce cancer health disparities.

Finally, NCI will also re-envision and redesign clinical trials with a focus on achieving faster progress. This includes new trial designs and increased access for underserved populations.

Cancer Moonshot Data Ecosystem – To maximize the benefits of doubling accrual to clinical trials, to accelerate the pace of cancer discovery, and to speed precision medicine into clinical practice, NCI will establish comprehensive infrastructure to share and process cancer data. The data ecosystem will serve as a foundational resource for cancer discovery. Through the data ecosystem, NCI will enable the fullest possible use of all forms of research data while protecting patient privacy. We will obtain data ethically and responsibly, and will use data consistent with patient wishes.

A National Cancer Data Ecosystem will enable all participants in cancer research and care to contribute, access, combine, and analyze diverse and inclusive data sets. The breadth of ecosystem data will include genomics, proteomics, imaging, and pathology, as well as data from population and implementation science.

NCI will support the ecosystem with extensive infrastructure and analytic tools that allow researchers to efficiently store, share, analyze, and visualize data, in ways that rapidly expand fundamental knowledge about this disease. Delivering a robust digital platform where researchers can learn from every patient will speed our understanding of cancer and stimulate opportunities for new treatments and new approaches to prevent, screen, diagnose, and treat cancer.

Continued Focus on Basic Research – As we pursue the compelling goals of the Cancer Moonshot, NCI will continue to invest in basic research and the broad, deep progress it delivers. Virtually all major advances in cancer originate with discoveries in basic cancer biology. Basic research reveals fundamental new concepts about the causes of cancer and how cancer develops, progresses, and responds to therapy.

The knowledge that flows from investment in basic research is essential to discovering new ways to prevent, detect, and treat cancer, and is vital to the success of the Cancer Moonshot. Examples of clinical advances that emerged from basic research findings include molecular tests to detect cancer, precision oncology, cancer vaccines, and immunotherapy – which were all nearly unimaginable two decades ago.

Moonshot and More – Thanks to decades of investment in biomedical research, we are in an era of great progress and remarkable opportunity for cancer patients and cancer discovery. Cancer Moonshot investments in this budget will further expand the scope and accelerate the pace of progress.

Cancer patients today have a better chance of living longer and enjoying improved quality of life. Yet, mortality rates for certain cancers have increased, while cancer health disparities, the differences in the burden of cancer incidence, prevalence, treatment response, and mortality, remain a serious public health challenge.

Despite sustained progress in preventing, diagnosing, and treating cancers, too many Americans face a cancer diagnosis, and far too many die from the disease. Thus, much work remains to meet the needs of those diagnosed with cancer, those at risk of cancer, and the growing population of cancer survivors.

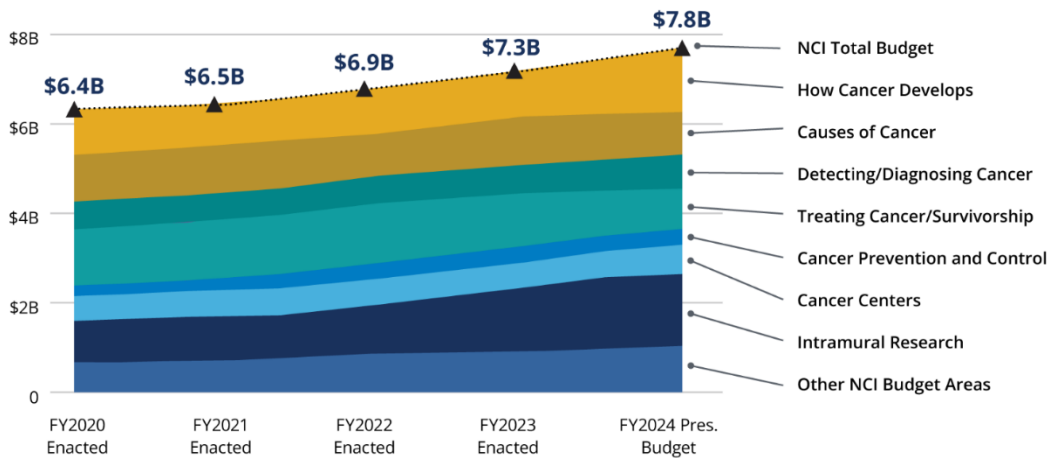
NCI looks forward to working with all partners in Congress and in the cancer community to meet and address these challenges. People affected by cancer – which includes all of us – are counting on the results we deliver.

NCI History: Established under the National Cancer Act of 1937, NCI is the Federal Government’s principal agency for cancer research, training, and education. In 2021, NCI celebrated the 50th anniversary of the National Cancer Act of 1971. The 1971 statute expanded NCI’s scope and responsibilities, directed NCI to lead the National Cancer Program, and instructed NCI to submit an annual plan and professional judgment budget directly to the President, and thereafter to Congress.

NCI Mission & Budget: NCI leads, conducts, and supports cancer research to advance scientific knowledge and help all people live longer, healthier lives. To conduct this mission, NCI funds basic and applied cancer research to advance the areas of science highlighted in Fig. 1.

NCI Budget by Science Area

FY 2020 - 2024 (Dollars in Billions)



Monica Bertagnolli, M.D., was sworn in as the 16th director of NCI in October 2022.

NCI Intramural Research: More than 300 principal investigators (PIs) perform research within the intramural program, which complements all aspects of the National Cancer Program. As of October 2022, NCI intramural researchers had ongoing collaborations with more than 2,000 extramural investigators at more than 800 academic institutions in 46 states, the District of Columbia, and more than 60 countries around the world.

NCI Extramural Grants: NCI uses an array of programs and financial mechanisms to support cancer science and the NCI mission. Foremost among these are extramural grants to fund investigator-initiated research, as Fig. 2 illustrates. Extramural grants support research by more than 7,000 PIs, yielding new insights to understand, prevent, diagnose, and treat cancer.

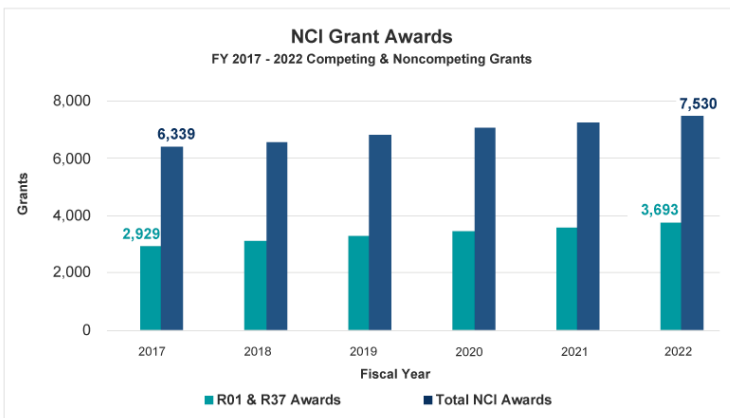


Fig. 2

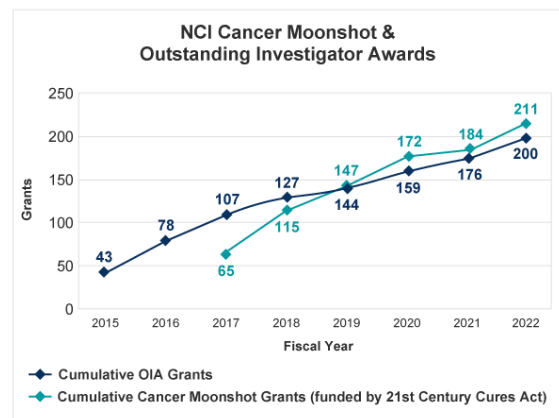


Fig. 3

Cancer Moonshot / Outstanding Investigators – Fig. 3 displays the history of Cancer Moonshot and Outstanding Investigator Awards (OIA) grants. In December 2016, Congress enacted the 21st Century Cures Act, which established the Cancer Moonshot and authorized \$1.8 billion across seven fiscal years to accelerate the pace of cancer discovery. Another innovation is NCI’s OIA Program, which provides seven years of funding to investigators with outstanding records in cancer research. OIA researchers test high-risk hypotheses supported by a higher award level and for more years of funding than NCI typically provides.

Current Activities and Accomplishments

Cancer Moonshot Progress – In 2016, Congress authorized the 21st Century Cures Act Beau Biden Cancer Moonshot, a visionary program to speed cancer discovery, collaboration, and implementation. To date, NCI has invested nearly \$1.4 billion of the \$1.8 billion in available Cures Act Cancer Moonshot funding to support over 240 research projects across more than 70 cancer science initiatives. This investment produced important advances tied to many Moonshot research priorities, from understanding tumor evolution, to improving cancer immunotherapies, to addressing treatment resistance, to identifying new targets for pediatric cancer.

Clinical Trials Innovation Unit – In 2023, in partnership with FDA and the clinical research community, NCI established a Clinical Trials Innovation Unit to design ways to stimulate more efficient, timely, and equitable clinical trials. NCI will work to mainstream the most successful innovations that improve clinical trial inclusiveness, efficiency, and operational effectiveness.

FDA Approvals – The rewards of research include FDA-approved cancer drugs that rely on the results of NCI-supported basic science and clinical trials. During the 5-year period of 2018-2022, FDA approved 94 new drugs and 9 biosimilars to treat cancer. FDA also approved 182 expanded uses for previously approved oncology drugs and biologics.

Future NCI Research

Cutting the Cancer Death Rate – In 2022, President Biden unveiled a set of compelling goals that included cutting the cancer death rate by 50% over 25 years, to reignite the Cancer Moonshot. Marquee Cancer Moonshot initiatives include NCI doubling accruals to cancer clinical trials and establishing a Cancer Data Ecosystem to accelerate the pace of cancer discovery.

NCI recently launched 3 Cancer Moonshot programs:

- A trial to evaluate multi-cancer detection tests, which may offer less-invasive tools to detect cancer and improve health outcomes
- the Cancer Moonshot Scholars program, to improve the diversity of the applicant pool for NCI grants
- the NCI Telehealth Research Centers of Excellence (TRACE) program, to determine ways that telehealth can improve cancer-related care and outcomes.

Frederick National Laboratory for Cancer Research (FNLCR) – The FNLCR brings public and private partners together to address some of the most difficult cancer research challenges. The timeline below displays dates when FNLCR released new research resources to support the scientific community.

FREDERICK NATIONAL LABORATORY FOR CANCER RESEARCH – KEY MILESTONES

The Frederick National Laboratory for Cancer Research (FNLCR) is the federal government's only national laboratory dedicated to biomedical research. FNLCR offers an array of resources supporting the full continuum of cancer research. Examples include –

1960s

Tumor Repository

A resource of experimental tumor lines that NCI offers to cancer scientists to advance their research

1990

Preclinical Biologics Repository

A resource of reagents (cytokines, monoclonal antibodies, etc.) supporting non-clinical cancer research

2000

NCI Mouse Repository

A resource of mouse cancer models and mouse embryonic stem cells available to support cancer research

2004

Nanotechnology Characterization Lab

A national resource to assist cancer scientists who use nanotechnology particles for cancer vaccines, therapeutics, and diagnostics

2009

NCI Experimental Therapeutics Program

Works with scientists to advance promising therapies through early stage research and into cancer clinical trials

2017

Patient-Derived Models (PDM) Repository

A resource of PDMs – patient-derived xenografts, tumor cell cultures, and organoids – to advance drug discovery and other cancer research

2017

National Cryo-Electron Microscopy Facility

Uses high-resolution imaging to generate atomic models of proteins and other molecules to support cancer research

1986

Natural Products Repository

80,000 plant samples, 20,000 marine invertebrates and algae, and 16,000 microbes available to support cancer research

1998

Biopharmaceutical Development Program

Manufactures novel antibodies, proteins, CAR T-cells, and other biological products for research and cancer clinical trials

2001

Protein Expression Lab

Generates DNA, cell lines, and protein reagents from bacteria, insect cells, or mammalian cells for use by cancer researchers

2007

Antibody Characterization Lab

Develops and characterizes antibodies for the cancer science community, allowing researchers to select the best antibodies to support their science

2017

HPV Serology Laboratory

Develops standardized approaches to measure antibody response to HPV vaccination and distributes assays and reagents to support development of new HPV vaccines

2020

Serological Sciences Network (SeroNet)

Improves our understanding of immune response to the virus responsible for the COVID-19 pandemic and addresses key questions about the virus, including in immunocompromised individuals and cancer patients



Major Changes in the Budget Request

Major changes by budget mechanism or budget activity are briefly described below. Note that there may be overlap between budget mechanisms and activity detail, and the highlights on this page will not sum to the total change for the FY 2024 President's Budget for NCI. The FY 2024 request is \$7,820.2 million, which is an increase of \$502.9 million or 6.9 percent from the FY 2023 Enacted level, which includes \$216.0 million transferred from the NIH Innovation Account under the 21st Century Cures Act. The FY 2024 request includes \$716.0 million to support the Cancer MoonshotSM and \$50.0 million for the Childhood Cancer Data Initiative (CCDI). The FY 2024 President's Budget reflects the Administration's fiscal policy goals for the Federal Government.

Research Project Grants (+\$69.5 million; total \$3,253.8 million): Through the Cancer Moonshot, NCI will continue to grow the Cancer Moonshot Scholars Diversity Program as it works towards a cancer research workforce that is more representative of the U.S. population. NCI will fund non-competing RPGs at 95 percent of their committed level, and support new, competing investigator initiated R01 awards at the 10th percentile. In total, NCI will support 1,339 competing grants in FY 2024.

Research Centers (+\$16.3 million; total \$645.2 million): The increase will support costs for competitively awarded new centers and renewing centers in the NCI-designated Cancer Centers and Specialized Programs of Research Excellence (SPOREs) programs, as well as Cancer Moonshot initiatives conducted through the Cancer Centers. The NCI Cancer Centers program is a cornerstone of the Nation's Cancer Research Program. Together with their community partners, the 71 NCI-designated Cancer Centers form the backbone of NCI's extramural program for studying and controlling cancer.

Other Research (+\$156.6 million; total \$833.5 million): This increase will support NCI efforts to increase the number of clinical trials NCI supports, ramp up clinical trial accrual, and increase clinical trial diversity, all of which form a cornerstone of the Cancer Moonshot. NCI will invest in cooperative clinical research to broaden the reach of clinical trials and enroll patients from more diverse populations.

Research & Development Contracts (+\$123.5 million; total \$1,064.3 million): A key component of the Cancer Moonshot is the National Cancer Data Ecosystem, and much of this increase represents NCI's commitment to investing in improved data infrastructure and analytics for cancer researchers and clinicians. Funding will also support critical shared infrastructure across NIH, enhanced information technology, and continued funding of the Federally Funded Research and Development Center (FFRDC) that manages the Frederick National Laboratory for Cancer Research (FNLRCR). NCI's FNLRCR is a national asset and a unique resource. The FNLRCR brings public and private partners together to address the most difficult cancer research challenges. Information technology accelerates cancer research by empowering scientists and clinicians with the data and tools they need to drive their research.

Intramural Research (+\$14.0 million; total \$1,267.1 million): The increase will support critical NIH shared infrastructure and high priority intramural science that remains an important priority within the overall NCI cancer research portfolio. NCI intramural research will emphasize high-risk, high-reward cancer research that would otherwise not be conducted by other entities.

Training Awards (-\$1.9 million; total \$94.1 million): During FY 2024, NCI will reduce research training awards by 2.0 percent. Programs to train and retain a diverse workforce of researchers with the skills required to conduct demanding and sophisticated cancer research will remain a high priority for NCI, as seen by NCI's investment in the RPG-based Cancer Moonshot Scholars Diversity Program. NCI training programs help maintain a strong cadre of future researchers capable of delivering important research results for the patients we serve.

Research Management and Support (+\$124.9 million; total \$632.2 million): RMS increases to fund the management infrastructure to support the expanded Cancer Moonshot efforts, as well as to cover pay increases and other inflationary costs for existing RMS activities.

Buildings and Facilities (+\$0.0 million; total \$30.0 million): The NCI Federally Funded Research and Development Center in Frederick has many facilities that are over 50 years old. During FY 2024, NCI will use these funds to replace aging building infrastructure, modify laboratories to install new state-of-the-art research instrumentation and equipment, reconfigure laboratory space to support emerging cancer research needs, and provide new infrastructure to protect mission-critical operations of the Frederick National Laboratory for Cancer Research.

BUDGET MECHANISM TABLE

NATIONAL INSTITUTES OF HEALTH

National Cancer Institute

Budget Mechanism ^{*1}

(Dollars in Thousands)

Mechanism	FY 2022 Final ²		FY 2023 Enacted		FY 2024 President's Budget		FY 2024 +/- FY 2023	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Research Projects:								
Noncompeting	3,947	\$2,128,473	4,107	\$2,263,335	4,410	\$2,378,018	303	\$114,683
Administrative Supplements	(325)	\$34,638	(420)	\$46,097	(273)	\$30,000	-(147)	-\$16,097
Competing:								
Renewal	129	\$83,868	129	\$87,485	122	\$79,184	-7	-\$8,302
New	1,232	\$592,381	1,241	\$626,709	1,212	\$604,393	-29	-\$22,316
Supplements	12	\$3,363	6	\$1,299	5	\$1,176	-1	-\$123
Subtotal, Competing	1,373	\$679,611	1,376	\$715,494	1,339	\$684,752	-37	-\$30,741
Subtotal, RPGs	5,320	\$2,842,722	5,483	\$3,024,926	5,749	\$3,092,771	266	\$67,845
SBIR/STTR	207	\$151,396	214	\$159,409	216	\$161,077	2	\$1,668
Research Project Grants	5,527	\$2,994,117	5,697	\$3,184,334	5,965	\$3,253,847	268	\$69,513
Research Centers								
Specialized/Comprehensive	256	\$595,008	260	\$628,918	267	\$645,212	7	\$16,294
Clinical Research	0	\$0	0	\$0	0	\$0	0	\$0
Biotechnology	0	\$0	0	\$0	0	\$0	0	\$0
Comparative Medicine	0	\$0	0	\$0	0	\$0	0	\$0
Research Centers in Minority Institutions	0	\$0	0	\$0	0	\$0	0	\$0
Research Centers	256	\$595,008	260	\$628,918	267	\$645,212	7	\$16,294
Other Research:								
Research Careers	557	\$112,537	568	\$118,079	556	\$115,679	-12	-\$2,400
Cancer Education	75	\$20,668	76	\$21,508	74	\$21,078	-2	-\$430
Cooperative Clinical Research	112	\$307,898	113	\$314,900	164	\$458,045	51	\$143,145
Biomedical Research Support	0	\$0	0	\$0	0	\$0	0	\$0
Minority Biomedical Research Support	0	\$2,294	0	\$2,512	0	\$2,462	0	-\$50
Other	266	\$193,164	291	\$219,885	313	\$236,219	22	\$16,334
Other Research	1,010	\$636,560	1,048	\$676,884	1,107	\$833,483	59	\$156,599
Total Research Grants	6,793	\$4,225,685	7,005	\$4,490,137	7,339	\$4,732,542	334	\$242,405
Ruth L Kirschstein Training Awards:	FITTPs		FITTPs		FITTPs		FITTPs	
Individual Awards	613	\$28,194	525	\$24,394	514	\$23,906	-11	-\$488
Institutional Awards	946	\$62,915	1,032	\$71,605	1,011	\$70,175	-21	-\$1,430
Total Research Training	1,559	\$91,109	1,557	\$95,999	1,525	\$94,081	-32	-\$1,918
Research & Develop. Contracts	424	\$855,705	481	\$940,785	544	\$1,064,297	63	\$123,513
SBIR/STTR (non-add)	(50)	(\$36,888)	(57)	(\$41,726)	(63)	(\$45,763)	(6)	(\$4,037)
Intramural Research	1,809	\$1,239,099	1,987	\$1,253,055	1,997	\$1,267,074	10	\$14,019
Res. Management & Support	1,373	\$468,027	1,333	\$507,265	1,471	\$632,165	138	\$124,899
SBIR Admin. (non-add)		(\$3,334)		(\$3,334)		(\$5,475)		(\$2,141)
Construction		\$0		\$0		\$0		\$0
Buildings and Facilities		\$30,000		\$30,000		\$30,000		\$0
Total, NCI	3,182	\$6,909,626	3,320	\$7,317,241	3,468	\$7,820,159	148	\$502,918

* All items in italics and brackets are non-add entries.

¹ Of which \$194.0 million in FY 2022 and \$216.0 million in FY 2023 is derived by transfer from the NIH Innovation Account under the 21st Century Cures Act. Includes 21st Century Cures Act funding not obligated in FY 2022, and carried over into FY 2023.

NATIONAL INSTITUTES OF HEALTH
NATIONAL CANCER INSTITUTE

For carrying out section 301 and title IV of the PHS Act with respect to cancer,
[~~\$7,104,159,000~~]~~\$7,820,159,000~~, of which ~~\$716,000,000~~ shall remain available until expended,
and of which up to \$30,000,000 may be used for facilities repairs and improvements at the
National Cancer Institute—Frederick Federally Funded Research and Development Center in
Frederick, Maryland.

SUMMARY OF CHANGES

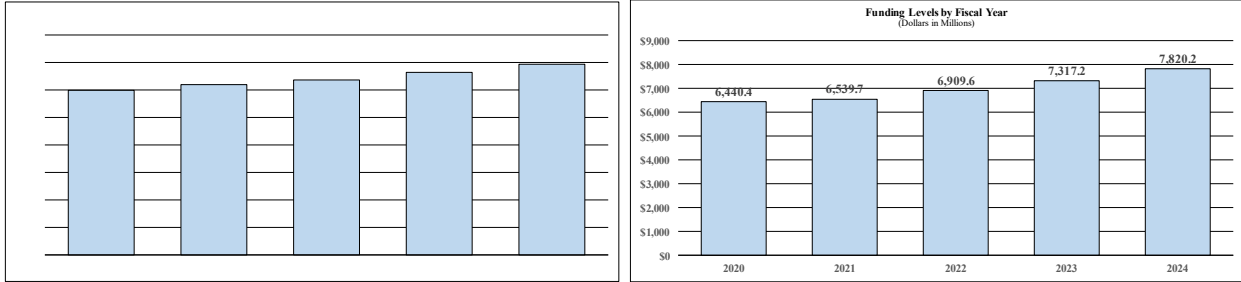
NATIONAL INSTITUTES OF HEALTH
National Cancer Institute

Summary of Changes
(Dollars in Thousands)

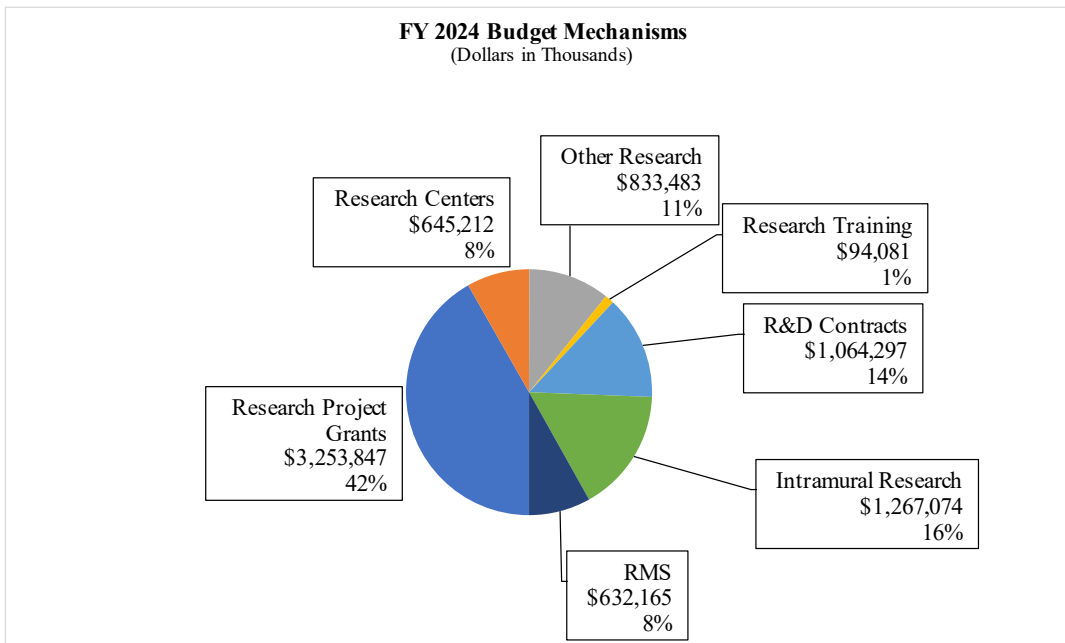
FY 2023 Enacted	\$7,317,241
FY 2024 President's Budget	\$7,820,159
Net change	\$502,918

CHANGES	FY 2023 Enacted		FY 2024 President's Budget		Built-In Change from FY 2023 Enacted	
	FTEs	Budget Authority	FTEs	Budget Authority	FTEs	Budget Authority
A. Built-in:						
<u>1. Intramural Research:</u>						
a. Annualization of FY 2023 pay and benefits increase		\$448,280		\$472,415		\$4,978
b. FY 2024 pay and benefits increase		\$448,280		\$472,415		\$17,189
c. Paid days adjustment		\$448,280		\$472,415		\$1,726
d. Differences attributable to change in FTE		\$448,280		\$472,415		\$2,265
e. Payment for centrally furnished services		\$184,708		\$187,663		\$2,955
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		\$620,068		\$606,996		\$13,936
Subtotal						\$43,050
<u>2. Research Management and Support:</u>						
a. Annualization of FY 2023 pay and benefits increase		\$266,369		\$286,373		\$2,950
b. FY 2024 pay and benefits increase		\$266,369		\$286,373		\$10,200
c. Paid days adjustment		\$266,369		\$286,373		\$1,026
d. Differences attributable to change in FTE		\$266,369		\$286,373		\$27,701
e. Payment for centrally furnished services		\$20,459		\$20,786		\$327
f. Cost of laboratory supplies, materials, other expenses, and non-recurring costs		\$220,437		\$325,006		\$4,602
Subtotal						\$46,805
Subtotal, Built-in						\$89,855
CHANGES	FY 2023 Enacted		FY 2024 President's Budget		Program Change from FY 2023 Enacted	
	No.	Amount	No.	Amount	No.	Amount
B. Program:						
<u>1. Research Project Grants:</u>						
a. Noncompeting	4,107	\$2,309,432	4,410	\$2,408,018	303	\$98,586
b. Competing	1,376	\$715,494	1,339	\$684,752	-37	-\$30,741
c. SBIR/STTR	214	\$159,409	216	\$161,077	2	\$1,668
Subtotal, RPGs	5,697	\$3,184,334	5,965	\$3,253,847	268	\$69,513
2. Research Centers	260	\$628,918	267	\$645,212	7	\$16,294
3. Other Research	1,048	\$676,884	1,107	\$833,483	59	\$156,599
4. Research Training	1,557	\$95,999	1,525	\$94,081	-32	-\$1,918
5. Research and development contracts	481	\$940,785	544	\$1,064,297	63	\$123,513
Subtotal, Extramural		\$5,526,920		\$5,890,920		\$364,000
6. Intramural Research	1,987	\$1,253,055	1,997	\$1,267,074	10	-\$29,031
7. Research Management and Support	1,333	\$507,265	1,471	\$632,165	138	\$78,094
8. Construction		\$0		\$0		\$0
9. Buildings and Facilities		\$30,000		\$30,000		\$0
Subtotal, Program	3,320	\$7,317,241	3,468	\$7,820,159	148	\$413,063
Total built-in and program changes						\$502,918

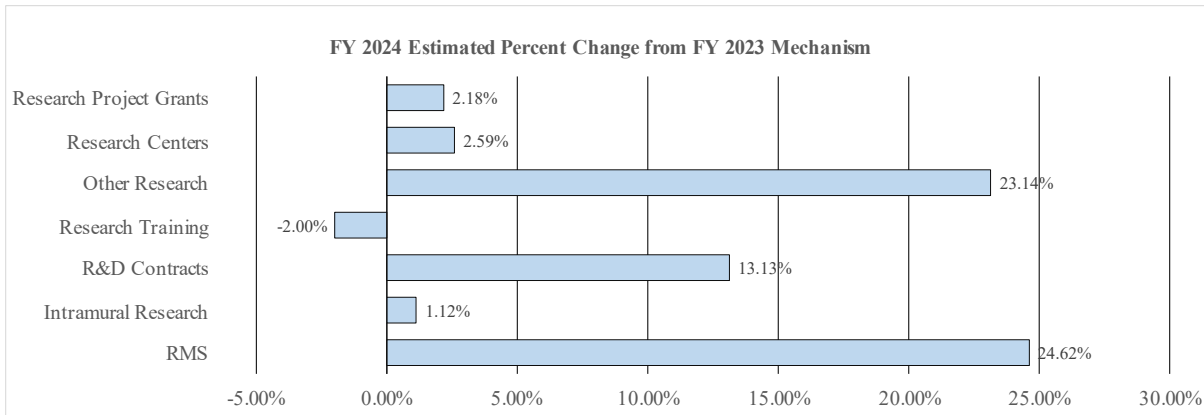
History of Budget Authority and FTEs:



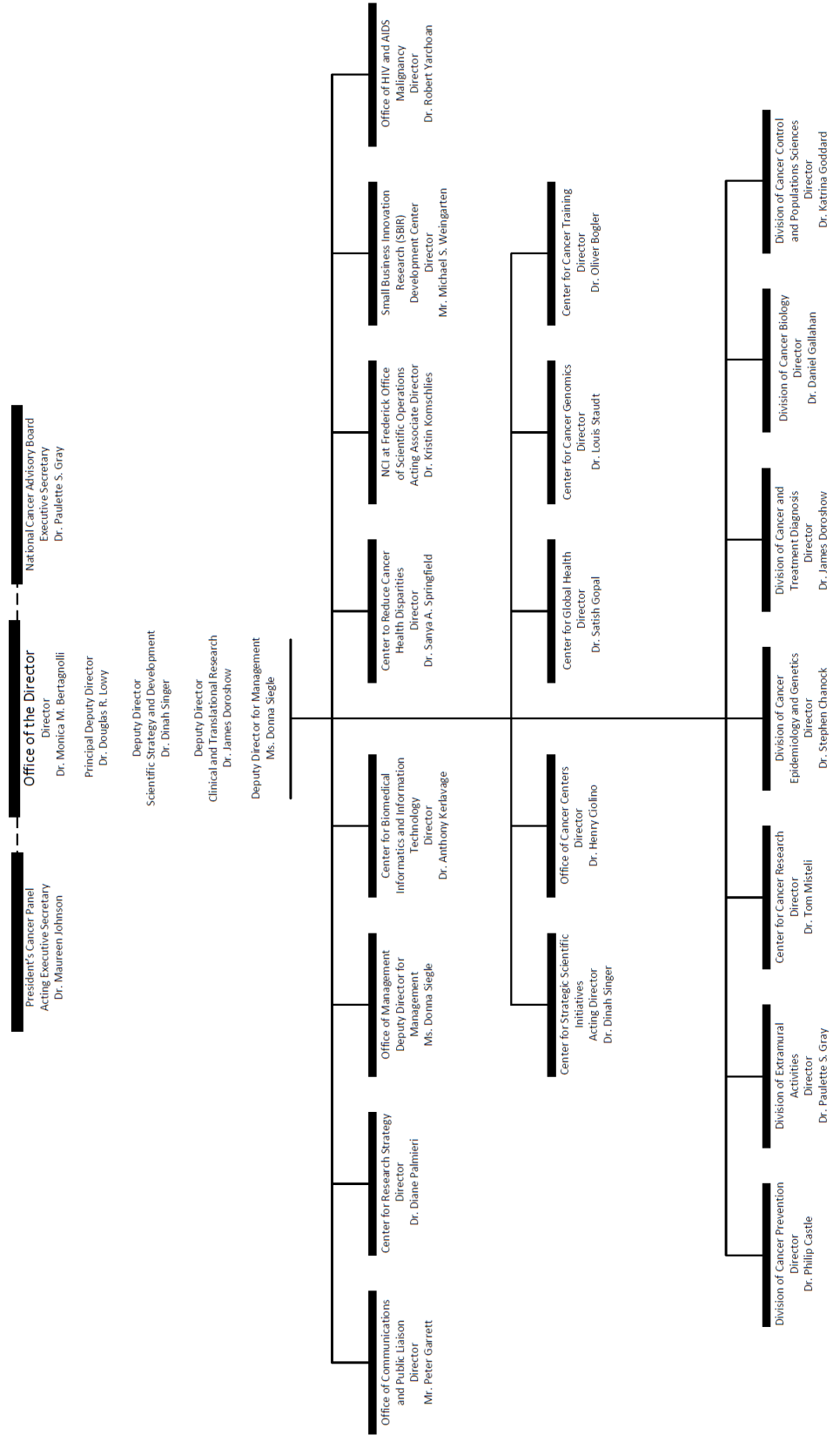
Distribution by Mechanism:



Change by Selected Mechanism:



ORGANIZATION CHART



BUDGET AUTHORITY BY ACTIVITY TABLE

**NATIONAL INSTITUTES OF HEALTH
National Cancer Institute**

Budget Authority by Activity *
(Dollars in Thousands)

	FY 2022 Final		FY 2023 Enacted		FY 2024 President's Budget		FY 2024 +/- FY 2023 Enacted	
	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>	<u>FTE</u>	<u>Amount</u>
Extramural Research								
<u>Detail</u>								
Understanding How Cancer Develops		\$1,012,682		\$1,089,138		\$1,078,655		-\$10,483
Understanding the Causes of Cancer		\$1,105,212		\$1,188,023		\$1,176,974		-\$11,049
Detecting and Diagnosing Cancer		\$591,825		\$636,663		\$742,032		\$105,368
Treating Cancer and Improving Survivorship		\$1,336,937		\$1,438,239		\$1,567,227		\$128,988
Improving Cancer Prevention and Control		\$292,345		\$314,213		\$404,482		\$90,270
Cancer Centers		\$566,638		\$579,558		\$645,212		\$65,654
Research Workforce Development		\$224,313		\$235,585		\$230,837		-\$4,748
Repairs and Improvements		\$30,000		\$30,000		\$30,000		\$0
Childhood Cancer Data Initiative (CCDI) ¹		\$42,547		\$45,500		\$45,500		\$0
Subtotal, Extramural		\$5,202,499		\$5,556,920		\$5,920,920		\$364,000
Intramural Research	1,809	\$1,239,099	1,987	\$1,253,055	1,997	\$1,267,074	10	\$14,019
Research Management & Support	1,373	\$468,027	1,333	\$507,265	1,471	\$632,165	138	\$124,899
TOTAL	3,182	\$6,909,626	3,320	\$7,317,241	3,468	\$7,820,159	148	\$502,918

* Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

¹ Includes CCDI extramural program costs. Total CCDI costs, including intramural research, are \$50.0 million in each year from FY 2022 through FY 2024.

National Cancer Institute

Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority (BA):

	<u>FY 2022 Final</u>	<u>FY 2023 Enacted</u>	<u>FY 2024 President's Budget</u>	<u>FY 2024 +/- FY 2023</u>
BA	\$6,909,626,000	\$7,317,241,000	\$7,820,159,000	\$502,918,000
FTE	3,182	3,320	3,468	148

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Overall Budget Policy: The FY 2024 President’s Budget request is \$7,820.2 million, an increase of \$502.9 million or 6.9 percent compared with the FY 2023 Enacted level. The Budget includes \$716.0 million to support the Cancer MoonshotSM.

Program Descriptions

NCI supports basic and applied research that advances five broad scientific goals:

- Understanding How Cancer Develops
- Understanding the Causes of Cancer
- Detecting and Diagnosing Cancer
- Treating Cancer and Improving Survivorship
- Improving Cancer Prevention and Control

To advance these goals, NCI issues grants for investigator-initiated research, conducts clinical trials, and finances a broad range of other science programs. NCI selects and supports NCI-designated Cancer Centers, and conducts basic, clinical, and population research through its intramural program. NCI also manages research contracts, including a Federally Funded Research and Development Center (FFRDC) that serves the Frederick National Laboratory for Cancer Research, and operates research facilities to support NCI FFRDC and intramural science.

Investigator-initiated research project grants constitute a large portion of the research investment for all five scientific goals. During FY 2022, NCI issued 7,530 grant awards across all grant mechanisms, including 3,693 traditional research projects (R01 and R37) and 376 exploratory (R21) grants.² These grant awards include 98 grants through the 21st Century Cures Act. Also

² Grant counts include grants awarded in FY 2022 from 21st Century Cures Act (Cures Act) funding carried over from previous years, and exclude grants anticipated to be awarded from FY 2022 Cures Act funding carried over into future years.

during FY 2022, more than 50,000 new patients enrolled in over 750 clinical trials that NCI sponsored or supported. Half of these patients are enrolled in trials supported by the National Clinical Trials Network (NCTN) and the NCI Community Oncology Research Program (NCORP). NCI-sponsored trials include trials coordinated by NCTN, NCORP, and other networks, where NCI funds infrastructure and other costs to support the networks and the trials. NCI-supported trials are trials that investigators conduct with NCI grant funding other than the awards to networks. Support for these trials often comes from R01 grants.

Similarly, the **Cancer Moonshot Scholars Diversity Program (CMSDP)** is a new NCI program that seeks to support the next generation of innovative cancer researchers. In September 2022, the Cancer Moonshot Scholars Diversity Program became a priority initiative of the federal government's Cancer Cabinet. The goal is to develop a cancer research workforce that is more representative of the U.S. population. The program is focused on Early-Stage Investigators (ESIs) and designed to advance scientific breakthroughs by promoting diversity of thought and approaches in cancer research. NCI expects to support cohorts of dozens of Cancer Moonshot Scholars in initial rounds, beginning in 2023 with award periods of up to five years.

The narratives that follow highlight NCI programs and progress in each scientific area, as well as future activities. However, virtually all NCI research under one scientific goal influences the approaches used to advance other areas of science. The breadth and complexity of NCI research precludes a complete review of all NCI programs in this document. Further details appear at www.cancer.gov. Examples that follow offer an overview of initiatives and accomplishments, but understate the vast amount of NCI work that contributes to the National Cancer Program.

I. Understanding How Cancer Develops

Cancer is driven by alterations of a cell's genome (DNA), as well as the RNAs and proteins that its DNA encodes. During this process, abnormal types and amounts of proteins emerge that lead to a variety of molecular abnormalities. These abnormalities cause a normal cell to transform into a tumor cell and lead to a diminished ability to control growth and other hallmarks of cancer. Precision medicine, in all its forms, depends on a deeper understanding of the genetic and non-genetic changes that occur in cancer cells and the surrounding tumor microenvironment.

To better understand how cancer develops, NCI supports large-scale, high-throughput studies of the genes, RNAs, proteins, and pathways altered in cancer. In addition, NCI funds studies of basic cell biology, cell interactions, tumor angiogenesis (blood vessels that form to support a tumor), immune responses, and related research to understand the mechanisms that cause cancer to develop and progress. NCI also supports laboratory studies in model systems, including animal and computational models, to investigate the functions of these systems and their relationship to cancer. Examples of initiatives under this NCI research goal include:

Biology of Early Lesions – Prevention and early detection are key strategies for combating cancer. Unfortunately, deploying these strategies often results in overdiagnosis and over-treatment of lesions that contribute to unintended morbidity, stress, and added healthcare costs. To address these challenges, NCI established the Translational and Basic Science Research in Early Lesion (TBEL) Program. TBEL aims to identify mechanisms that either drive or restrain early lesions. TBEL grantees will conduct comprehensive studies integrating basic and

translational research to investigate the causal relationships and interactions of early lesions, their microenvironment, and other relevant factors. TBEL is focusing on a broad range of tumor sites (colon, pancreas, prostate, bladder), biological models, and targets to identify unique and common pathways of tumor indolence or aggressiveness. This research advances the Cancer Moonshot priorities of preventing cancer and detecting cancer sooner.

Basic Research in Cancer Disparities – Mechanistic studies are essential to understand the causes of cancer disparities. To date, research has provided insights into the role of genetic ancestry and molecular differences in cancer disparities, while also identifying potential therapeutic targets. Research has also generated better understanding of racial differences in gut microbiota among cancer patients, identified DNA alterations by race in colon cancer patients, and suggested treatment options for Hispanic children with Acute Lymphoblastic Leukemia. Disparities research aligns with the Cancer Moonshot priorities of diagnosing cancer sooner, targeting the right interventions to the right patients, and learning from all patients.

Biology of Non-Viral Liver Cancer – Liver cancer is the fifth most frequent cause of cancer-related death in the United States. While the incidence of liver cancer appears to have stabilized, the five-year survival rate remains low at a time when survival rates for other major cancers are improving. NCI is giving special focus to the biology of liver cancer, especially mechanisms underlying non-viral risk factors such as obesity, diabetes, and non-alcoholic fatty liver disease. To cite one example, NCI is supporting research to define how mutations in different genes cause distinct subtypes of liver cancer. This research is an opportunity to expand knowledge about the mechanisms of liver cancer and lay the foundation for better treatments. This research advances the Cancer Moonshot priority of speeding progress against the deadliest cancers.

Budget Policy: The FY 2024 President’s Budget request for this area is \$1,078.7 million, a decrease of \$10.5 million or 1.0 percent compared with the FY 2023 Enacted level.

II. Understanding the Causes of Cancer

Cancer develops through a complex interplay of factors, including genetics, environmental exposure, and changes that occur through aging. These factors probably influence the likelihood of developing almost all cancers. In some cases, cancer risk is more strongly influenced by inheriting a mutation, a variant of a gene, or a combination of genes. In other cases, cancer risk is influenced by external factors, such as exposure to tobacco or infectious agents.

Understanding the interactions among genetic, environmental, and lifestyle factors will improve the ability of scientists to prevent, detect, diagnose, and treat cancers at the earliest possible time. NCI-funded studies on the causes of cancer range from laboratory-based research to large-scale studies that use population cohorts or case-controlled comparisons of subpopulations. The studies also use modeling to determine cancer risk for individuals or populations. Through such studies, NCI research continues to strive to identify the causes of cancer. Examples include:

Team Science Focused on Hard-to-Treat Cancers – Some cancers, such as lung, brain, and pancreatic, are hard to treat because of their location or highly invasive nature. To address this challenge, NCI scientists have brought together multidisciplinary teams to understand the mechanisms of action and develop targeted treatment options to benefit patients in clinical

settings. One team of NCI chemists and surgeons recently found a promising way to treat mesothelioma by injecting or spraying a hydrogel containing microRNA onto tissue surfaces during surgery. They are studying whether the treatment could replace surgery and whether approaches like this can be applied to other difficult-to-treat tumors. This research aligns with the Cancer Moonshot priority of speeding progress against deadly and rare cancers.

Rare Tumors – NCI’s ready access to the NIH Clinical Center, the world’s largest research hospital, gives scientists in the NCI Center for Cancer Research (CCR) unique opportunities to study rare tumors. Because patients with rare tumors come to the Clinical Center from around the world, NCI is able to identify new research opportunities and evaluate potential therapies in clinical trials large enough to yield meaningful results. Basic, translational and clinical research capabilities also allow CCR to collaborate nimbly with partners that can commercialize research discoveries. This allows CCR to bring new treatments for rare cancers from the lab to the patient. These efforts align with the Cancer Moonshot priority of speeding progress against rare cancers.

Cancer Disparity Collaborative Research – This is a trans-NCI initiative to expand cancer disparities research to investigators who do not normally conduct disparities research. The initiative also forges partnerships between experienced cancer investigators and disparities-focused researchers. These collaborations will accelerate and strengthen multi-disciplinary cancer disparities research. This disparities research advances the Cancer Moonshot priority of preventing cancer, diagnosing cancer sooner, and learning from all patients.

Budget Policy: The FY 2024 President’s Budget request for this area is \$1,177.0 million, a decrease of \$11.0 million or 0.9 percent compared with the FY 2023 Enacted level.

III. Detecting and Diagnosing Cancer

Many deaths occur because cancers are diagnosed at late stages when treatment is often less effective. NCI-supported researchers are working on techniques to image tumors earlier and identify molecules – including nucleic acids, proteins, metabolites, and other substances – that may improve early detection and diagnosis. This often involves uncovering the distinct molecular signatures of cancers and developing and refining molecular tests to detect cancer.

NCI has an array of programs to advance early cancer detection and diagnosis. These include –

- Developing new technologies and improving existing methods of noninvasive imaging to support cancer diagnosis, to identify disease subsets in patients, to determine the stage of disease, and to monitor the progress of cancer treatment.
- Coordinating efforts to obtain high-quality tissue specimens and data for the research community and developing databases of molecularly characterized specimens.
- Maintaining infrastructure and programs such as the Genomic Data Commons, the Cancer Genome Characterization Initiative, and The Cancer Genome Atlas (a collaboration with the National Human Genome Research Institute) to support the cancer research enterprise.

Investigator-initiated research project grants are one mechanism NCI relies on to support and improve early detection and diagnosis of cancer. Other initiatives under this goal include:

Risk-Informed Screening for Breast Cancer – The Women Informed to Screen Depending on Measures of Risk (WISDOM) study, uses personalized risk assessment to compare an individualized breast cancer screening plan to standard annual screening. For women at low or average risk, screening may not be needed until age 50. For very high-risk women, screening may begin earlier and include supplemental screening. With new data emerging from cohorts on personalized genomic risk scores, future trials of other cancers can take a similar approach and can leverage the WISDOM infrastructure.

Smoking Cessation in the Setting of Lung Cancer Screening – Low-dose computed tomography (LDCT) screening delivers very detailed images of lung tissue. Because approximately 50 percent of LDCT participants are current smokers, LDCT screening represents an important opportunity to offer smokers help in quitting. NCI’s Smoking Cessation at Lung Examination (SCALE) initiative is generating a large pool of data on screening and cessation outcomes that will be valuable to understand the possible connection between smoking cessation rates and access to LDCT facilities. This research advances the Cancer Moonshot priorities of preventing cancer and targeting the right treatments to the right patients.

Data to Accelerate Moonshot Discovery – To learn from every patient, NCI shares data from NCI-funded research across the scientific community. For example, through the Cancer Research Data Commons (CRDC), NCI provides the infrastructure to aggregate, harmonize, analyze, and share cancer data and thereby drive research discovery, surveillance, and clinical care. The CRDC is a key component of the NCI data ecosystem, and it became a priority initiative of the federal government’s Cancer Cabinet in September of 2022. Recent CRDC accomplishments include an expanded repository capable of accepting all types of data, more powerful search capability, and greater CRDC connectivity to other cloud-based repositories. Future goals for this resource include lowering the barrier to submitting, visualizing, and analyzing data.

Telehealth Research Centers of Excellence (TRACE) to Improve Cancer Care – Technological advances, coupled with changes in delivering healthcare due to COVID-19, have led to increased use of telehealth. Yet, we do not adequately understand the optimum approaches for using telehealth to provide cancer-related care. With support from the Cancer Moonshot, NCI established TRACE to study the role of telehealth in cancer prevention, screening, diagnosis, treatment, survivorship, and health equity. This \$23 million initiative funds four academic centers to conduct large trials in real-world clinical settings to determine how telehealth can support delivery of quality cancer care. TRACE will identify best and sustainable practices for telehealth to benefit cancer patients and inform cancer providers. In September 2022, the Telehealth Centers became a priority initiative of the federal government’s Cancer Cabinet.

Advancing Cancer Research with Artificial Intelligence (AI) – AI promises to accelerate the pace of cancer discovery. Today, cancer data challenges include incompleteness, privacy concerns, and bias that limits the application of AI. With these challenges in mind, and with the goal of expanding the application of AI to cancer, NCI is supporting research on computational methods that operate with imperfect data. NCI is also developing a Cancer AI Accelerator to

connect transdisciplinary communities and bring diverse perspectives to bear on the robust and ethical use of AI for cancer research. This initiative supports the Cancer Moonshot priorities of learning from all patients and preventing and diagnosing cancer.

Budget Policy: The FY 2024 President's Budget request for this area is \$742.0 million, an increase of \$105.4 million or 16.6 percent compared with the FY 2023 Enacted level.

IV. Treating Cancer and Improving Survivorship

Research on cancer therapy has many facets that go beyond developing and testing drugs, radiotherapy, immunotherapy, and surgery. These include controlling symptoms, improving care, and enhancing long-term survivorship and quality of life. Developing new therapies and the means to monitor cancers before and during treatment are central to successfully treating patients. Increasingly, progress is linked to knowledge about molecular fingerprints of tumors, the structure of cancer-associated molecules and how to target them with new drugs, how cancer cells interact with the host environment and the immune system, and the altered behaviors of cancer cells.

To develop and improve cancer treatments, NCI supports basic, translational, and clinical research to identify therapeutic targets and strategies. Commercial entities frequently validate these targets and develop interventions against them. NCI also supports clinical research to develop and test interventions at sites across the country. Examples of these priorities include:

Improving Cancer Survivorship Care – There are nearly 20 million cancer survivors living in the United States. To address the unique needs of this heterogeneous population and advance the Cancer Moonshot priority to support patients, caregivers, and survivors, NCI is funding a broad range of research, including prospective cohort studies of cancer survivors that identify clinical, lifestyle, genomic, and other factors that affect health outcomes. Examples of NCI survivorship-focused studies include research to support high-quality care for survivors that integrates primary care from the point of diagnosis forward and research to determine the interventions to improve outcomes for survivors with metastatic cancer or advanced cancer.

COVID Immunity in Cancer Patients – The SARS-CoV-2 pandemic highlighted the urgent need to understand how cancer and cancer therapies affect the immune response to infectious diseases and vaccinations. Some types of cancer can affect the immune response, especially hematologic cancers, and these cancer patients remain vulnerable to COVID-19 despite vaccination and boosters. Researchers in the NCI's Serological Sciences Network (SeroNet) are studying the effectiveness of vaccine boosters, including the new bivalent vaccine, in individuals with cancer and other immunocompromised conditions. These studies will inform whether vaccination or cancer therapy schedules should be adjusted. SeroNet investigators are also exploring whether individuals with cancer and other conditions are more likely to develop post-acute sequela after COVID-19 and the nature of their symptoms. SeroNet supports the Cancer Moonshot priorities of learning from all patients and supporting patients and survivors.

Cancer Grand Challenges (CGC) – The CGC global funding partnership founded in 2020 by NCI and Cancer Research UK issued the first round of awards in June of 2022. The CGC initiative funds 5-year, \$25 million awards to support international, multidisciplinary research

teams that propose to solve some of the toughest challenges in cancer research. The four teams receiving the first round of awards have focused on a series of compelling cancer challenges:

- the muscle-wasting condition experienced by cancer patients known as cachexia;
- the biology of extrachromosomal DNA in cancer;
- new therapies to treat solid tumors in children; and
- what triggers normal cells harboring cancer-causing mutations to become tumor cells.

Beginning in October 2022, the CGC partnership conducted a global outreach to gather recommendations for the next round of Cancer Grand Challenges from researchers, advocates, and others in the cancer community. In April of 2023, the partnership will announce a global research funding opportunity with nine new challenges.

Connecting Underrepresented Populations to Clinical Trials (CUSP2CT) – Participation of racial and ethnic minority populations in cancer clinical trials remains low. In the absence of adequate representation, cancer disparities will likely continue. To address this challenge, NCI designed CUSP2CT to develop multi-level, culturally tailored outreach and education approaches capable of increasing referrals of minority populations to NCI-supported clinical trials. This research advances the Cancer Moonshot goal of addressing inequities.

Childhood Cancer: Resources to Benefit Every Patient and Survivor – NCI developed the Childhood Cancer Data Initiative (CCDI) to gather, harness, and share data as a means of speeding research and discovery in childhood cancers. To advance these Cancer Moonshot goals, CCDI launched a series of projects: the Molecular Characterization Initiative (MCI), the Childhood Cancer Data Catalog, and the Molecular Targets Platform. CCDI is also collaborating with the biobanking project established through the Childhood Cancer Survivorship, Treatment, Access, and Research (STAR) Act to support biospecimen collection for the MCI and the Childhood Cancer Survivor Study. NCI is sequencing pediatric biospecimens that it will store and share with the research community through the Cancer Research Data Ecosystem.

New Drug to Target Rare Cancer – Triple-negative breast cancer (TNBC) is a rare cancer that is harder to treat, is more likely to recur, and has fewer treatment options compared to other types of breast cancer. NCI funded the development of a new FDA-approved TNBC treatment, Trodelvy, through its Small Business Innovation Research (SBIR) program. This advances the Cancer Moonshot goal of speeding progress against rare cancers. Trodelvy is an antibody-drug conjugate that enables delivery of the drug directly to the cancer cell. Since it was approved in 2020, Trodelvy has provided an option for patients with TNBC who have previously received two or more therapies. Early development of this treatment was supported by NCI SBIR research funding, mentoring, and training. NCI continues to foster the work of American small businesses to develop new cancer technologies through NCI SBIR’s innovative idea-to-patients resources.

Cancer Mortality Trends for Black Individuals – To eliminate cancer as we know it, we must first understand who gets cancer, which types of cancer they develop, and their prognosis and outcomes. While death rates from cancer in the United States have been declining over time, the rate of cancer death for Black individuals remains higher than death rates for many other racial and ethnic groups. For example, mortality rates from uterine cancer rose between 2010 to 2017

across the U.S. population for all racial and ethnic groups. But death rates were highest among non-Hispanic Black women. The reasons for greater overall mortality and higher uterine cancer death rates are multifactorial, including structural inequities, barriers to receiving routine or evidence-based treatment, economic barriers, and more. NCI evaluates cancer registry data and CDC national death certificate data to better understand how these trends may change over time and to identify potential interventions that can improve health equity for Black individuals. This research advances the Cancer Moonshot priority of addressing inequities.

NCI’s COVID-19 in Cancer Patients Study (NCCAPS) – In response to the COVID-19 pandemic, NCI launched NCCAPS – a longitudinal study of patients who became infected with SARS CoV-2 while undergoing cancer treatment. The study, which involves collecting clinical data, biospecimens, and imaging studies, closed in February 2022 with enrollment of more than 1,800 adult and pediatric patients. Initial analyses focused on the association between biomarkers and vaccination status, and the severity of COVID-19 disease. This research advances the Cancer Moonshot goal of learning from all patients. The knowledge gained will help clinicians provide appropriate guidance and support to patients with cancer who are at risk of severe COVID-19.

New Treatments for Brain Cancer – Despite substantial public and private investment, the survival rate for adult glioblastoma (GBM) remains dismal and new treatment approaches are needed. GBM presents substantial biological challenges to be addressed in preclinical studies that support testing of therapies in the clinic. In 2021, NCI launched the Glioblastoma Therapeutics Network (GTN), a national multi-institutional collaborative effort with the goal of taking novel therapeutic agents from preclinical studies in models of GBM into pilot clinical studies that include biomarkers of effects. GTN grantees are currently conducting collaborative pilot projects and initiating clinical studies. This research advances the Cancer Moonshot goal of speeding progress against the deadliest cancers.

Improving Clinical Trial Diversity and Accrual – A major barrier to active participation by physicians in clinical trials is the scarcity of trained research nurses and other research personnel to support clinical trial activities and offer outreach to diverse patient populations within their catchment areas. This problem has been further aggravated by the COVID-19 pandemic that also precipitated the departure of research personnel from clinical sites. To address this barrier, NCI is piloting a Virtual Research Nurse program that provides centralized support to identify candidate patients for clinical studies and assist academic and community oncologists to enroll and follow patients on trial. In contrast to telehealth approaches that “bring the doctor to the patient,” this initiative will bring the research infrastructure to the oncology practice.

Biology of Fusion Oncoproteins – Fusion oncoproteins research remains an important unmet medical need for childhood cancers. The understanding of these proteins advanced significantly through the work of the NCI Fusion Oncoproteins in Childhood Cancer Consortium. Recent advances in chemical biology methods have dramatically expanded the universe of “druggable” protein targets and provided insights for future research into the basic biology underlying fusion oncoproteins in childhood cancer. NCI recently hosted a webinar series to explore new chemical biology approaches to targeting fusion oncoproteins, and future work is likely to yield significant

insights for childhood cancer patients. Fusion oncoproteins research advances the Cancer Moonshot priority of speeding progress against childhood cancers.

Budget Policy: The FY 2024 President’s Budget request for this area is \$1,567.2 million, an increase of \$129.0 million or 9.0 percent compared with the FY 2023 Enacted level.

V. Improving Cancer Prevention and Control

Cancer prevention and control research focuses on identifying ways to reduce cancer risk and improve cancer outcomes at the individual and population levels. NCI supports a broad range of research, including studies to characterize molecular changes associated with how cancer initiates and progresses, that can become the basis for developing therapies and other interventions to target these mechanisms. NCI research also focuses on ways to reduce exposures to cancer-causing substances and increase healthy behaviors. Other research focuses on integrating proven, effective interventions into routine care. NCI also funds studies in underserved communities to advance the goal of controlling cancer more effectively for all populations. Through education, behavior modification, vaccination and other preventive treatments, and through policies that limit exposures to carcinogens, 30 to 50 percent of cancers could be prevented.

Cancer control science relies on basic and applied research in behavioral, social, and population sciences to reduce cancer risk, incidence, morbidity, and mortality, and improve quality of life. Cancer control seeks to understand the causes and distribution of cancer in the population, identify and implement effective healthcare practices to reduce cancer incidence, and monitor and explain cancer trends and disparities in the population. Cancer control research generates basic knowledge about monitoring and changing behavior and translates that knowledge into practice. To improve cancer prevention and control, NCI supports research to understand the factors that influence cancer outcomes, quality of care, and quality of life. NCI also promotes studies in underserved communities to advance the goal of controlling cancer more effectively for all populations. Examples of initiatives under this NCI research goal include:

Cancer Immunoprevention – A recent report for NCI’s Board of Scientific Advisors identified gaps in basic science involving the carcinogenic process, immunologic interactions, immune modulation, and the mechanisms involved in “cross talk” with the tumor microenvironment. These areas of research are potential targets for cancer immunoprevention. To address these gaps, the NCI Cancer Moonshot funded awards focused on developing mechanistically-informed prevention agents. The success of that effort led NCI to establish the Cancer Immunoprevention Network (CIP-Net), consistent with the Cancer Moonshot priority of preventing cancer. CIP-Net seeks to further understanding of the biology underlying potential immunoprevention approaches and move promising immunoprevention strategies towards the clinic.

Patient-Derived and Tissue Engineered Systems for Cancer Research – NCI efforts like The Cancer Genome Atlas, the Clinical Proteomic Tumor Analysis Consortium, and the Human Tumor Atlas Network have generated a wealth of testable hypotheses for preventing and treating cancer. However, experimental model systems that mimic human tumorigenesis and the tumor ecosystem remain limited. Advanced development of patient-derived models and synthetic biomaterials that mimic the tumor ecosystem requires multi-disciplinary collaborations among chemists, material scientists, physical scientists, and cancer experts. The NCI Patient-Derived

Models Consortium advanced several patient-derived systems to test biological hypotheses and screen cancer therapeutics. The NCI Cancer Tissue Engineering Collaborative has developed engineered human systems, such as tissue-on-chip, that effectively combines important tumor and non-tumor components. Finally, NCI and the National Science Foundation (NSF) convened workshops in 2021 that brought together engineers, material scientists, and cancer biologists to explore opportunities at the intersection of material science and cancer research.

Multi-Cancer Detection Screening – Through the Cancer Moonshot, NCI is launching a network to carry out large national clinical trials to evaluate new technologies to detect cancer, including multi-cancer detection (MCD) blood tests. MCD technology offers the potential to detect asymptomatic cancer at several organ sites with a simple blood test, often called a “liquid biopsy.” In September 2022, MCD screening became a priority initiative of the federal government’s Cancer Cabinet. To prepare for trials of MCD technologies, NCI is launching a new four-year pilot study to enroll 24,000 people ages 45 to 70 years. The pilot study will lay the groundwork for a large randomized controlled trial that will enroll 225,000 people. The Vanguard Trial will be funded in part by 21st Century Cures Act Cancer Moonshot funds and will begin enrolling patients in 2024.

Cancer Prevention-Interception Targeted Agent Discovery (CAP-IT) – CAP-IT is a new program to discover preventive interventions for otherwise healthy people with elevated cancer risks. To promote early cancer detection, high-risk individuals receive screening more frequently than the general population. This includes vaccines to prevent cancer from progressing and eradicating precancer and early cancer by exploiting vulnerabilities through two Cancer Moonshot initiatives, the Immuno-oncology Translational Network and the Pre-Cancer Atlas.

Preventing Anal Carcinoma – The incidence of anal cancer is increasing substantially in the United States. Certain groups, such as people living with HIV, are at the highest risk of developing this tumor. Most cases are caused by human papillomavirus, the same virus that causes cervical cancer. NCI has recently completed a randomized clinical trial showing that treatment of precancerous anal lesions in people living with HIV could reduce the progression to anal cancer. These results provide support for screening and treatment of precancerous anal lesions in persons at high risk for developing anal cancer. Future research on samples collected during the study may lead to improved prevention strategies for anal cancer, including optimized screening approaches and identification of biomarkers of progression from precancer to cancer. This research advances the Cancer Moonshot priority of cancer prevention.

Advancing Equity in Cancer Care through Community Intervention – Despite overall gains in cancer prevention, early detection, diagnosis, treatment, and survivorship care, not all U.S. populations benefit equally. To address barriers and underlying inequalities in cancer care in underserved communities and to advance an important Cancer Moonshot goal, NCI is supporting research in persistent poverty areas to develop and implement equitable, sustainable approaches to care that are community informed and supported. NCI is also supporting community-engaged research that addresses the impacts of social determinants of health on adverse cancer outcomes.

Physical Activity to Promote Cancer Prevention – Physical activity and exercise are associated with reduced risk for multiple cancers. NCI is supporting studies to understand the amount, types, and intensity of exercise most beneficial for cancer prevention and survival after cancer diagnosis. For example, during the past year, NCI researchers have published results on the benefits of exercise for former smokers, to reduce risk of death in older Americans (from cancer and other causes), and the number of deaths that could be prevented if all Americans increased moderate-to-vigorous intensity physical activity by 10 minutes per day. This research advances the Cancer Moonshot goal to prevent cancers.

Budget Policy: The FY 2024 President’s Budget request for this area is \$404.5 million, an increase of \$90.3 million or 28.7 percent compared with the FY 2023 Enacted level.

VI. Cancer Centers

The NCI Cancer Centers program is a cornerstone of the nation’s cancer research program. Together with their community partners, the 71 NCI-designated Cancer Centers form the backbone of NCI’s extramural program for studying and controlling cancer. NCI Cancer Centers are the nation’s single most important source of new insights into the causes of cancer and strategies to prevent, diagnose, and treat cancer. Research proposals from Cancer Center investigators account for about three-quarters of the investigator-initiated grants NCI issues. Examples of the Cancer Center clinical trials that led to recent FDA approvals include:

- Based on research led by a team at the Lurie Cancer Center of Northwestern University, FDA approved the drug olaparib (Lynparza) for men with metastatic prostate cancer that showed certain genetic changes where the cancer progressed following previous therapies, including hormone therapy. Patients who received olaparib showed longer overall survival when compared to other therapies.
- Based on research led by a team at the Fred Hutchinson - University of Washington Cancer Consortium, FDA approved the drug avelumab (Bavencio) for patients with advanced urothelial cancer. The study by this Cancer Center demonstrated that patients who received the immune-boosting drug following chemotherapy lived longer than those who did not receive the therapy.

Budget Policy: The FY 2024 President’s Budget request for this area is \$645.2 million, an increase of \$65.7 million or 11.3 percent compared with the FY 2023 Enacted level.

VII. Research Workforce Development

NCI has a longstanding commitment to train, develop, and support a strong and diverse workforce of researchers spanning the career continuum. Support for early-stage investigators attracts talented scientists and ensures the future strength of cancer research. In addition to direct support for training, NCI grants awarded to established investigators – scientists with a proven ability to conduct robust science – fosters mentoring for a new generation of cancer researchers.

Center to Reduce Cancer Health Disparities – NCI supports programs to develop and maintain a robust cancer research workforce that reflects the nation NCI serves. At NCI, the

Center to Reduce Cancer Health Disparities (CRCHD) plays a vital role to advance this goal. Examples of the breadth of CRCHD programs in health disparities include:

Continuing Umbrella of Research Experiences (CURE) provides research training and career development to middle school students through early-stage investigators for those from underrepresented backgrounds, supporting their progress along the academic pathway to achieve research independence.

Intramural Continuing Umbrella of Research Experiences (iCURE) provides mentored research experience for post-baccalaureate and graduate students and postdoctoral fellows, many from underrepresented backgrounds, who are engaged in intramural research at NCI.

Youth Enjoy Science (YES) Research Education Program promotes cancer research careers among underrepresented students by supporting institution-level, early intervention education for grades 6-12 and for undergraduate students, as well as training to support teachers and faculty.

Partnerships to Advance Cancer Health Equity (PACHE) supports partnerships between NCI-designated Cancer Centers and institutions serving underserved populations and underrepresented students, with special focus on cancer health disparities, and community outreach.

Training Cancer Researchers of the Future – NCI supports a broad array of training to develop cancer researchers of the future. Through formal training, individual fellowships, and career development awards, NCI supports training in basic, clinical, and behavioral research at institutions across the country. Those receiving training grants include pre-doctoral candidates, postdoctoral fellows, and new faculty in independent research positions. NCI also supports research training experiences for high school, college, graduate, and medical school students, and postdoctoral fellows working in NCI intramural research programs.

NCI continues to advance new approaches to strengthen the research workforce. In FY 2022, NCI initiated the Early-Stage Surgeon Scientist Program (ESSP) to support training and mentorship for surgeon scientists at NCI-designated Cancer Centers or institutions with a Comprehensive Partnerships to Advance Cancer Health Equity award. ESSP trains surgeon scientists and retains them in cancer research by creating a program focused on cancer-related disease and basic or translational research. The program brings together surgeon scientists from across the United States and builds cohorts for training together.

The inaugural cohort of 12 surgeon scientists were selected from a competitive pool of U.S. applicants. Surgical specialties represented include surgical oncology, endocrine surgery, head and neck surgery, neurosurgery, OB-GYN, ophthalmology, pediatric surgery, and urology.

NCI also is committed to supporting a well-defined career path to research independence for scientists. During FY 2022, NCI funded the seventh F99/K00 training award cohort, supporting the transition from pre-doctoral research to postdoctoral training. This positions awardees to be competitive for a second transition award to advance their research independence: K99/R00

awards supporting the transition to tenure-track investigators. Collectively, these mechanisms offer a smoother pathway for making these challenging transitions. Also, in FY 2022, 48 postdoctoral fellows supported by the Pathway to Independence Award transitioned to independent cancer researchers in tenure-track academic appointments.

Budget Policy: The FY 2024 President's Budget request for this area is \$230.8 million, a decrease of \$4.7 million or 2.0 percent compared with the FY 2023 Enacted level.

VIII. Intramural Research

NCI intramural research complements all aspects of the National Cancer Program. The scientists, physicians, and clinicians in the NCI Intramural Research Program conduct basic, clinical, genomic, and population research. NCI intramural research emphasizes high-risk, high-reward research that would otherwise not occur. Accomplishments of the intramural research program appear within the program descriptions for the five NCI scientific goals of this budget document.

Budget Policy: The FY 2024 President's Budget request for this area is \$1,267.1 million, an increase of \$14.0 million or 1.1 percent compared with the FY 2023 Enacted level.

IX. Research Management and Support

NCI research management and support staff serve an indispensable role by enabling the success of all NCI programs. Their activities include central administration, program direction, grant and contract administration, human resources, program coordination, and financial management.

Budget Policy: The FY 2024 President's Budget request for this area is \$632.2 million, an increase of \$124.9 million or 24.6 percent compared with the FY 2023 Enacted level. This increase will fund the management infrastructure to support expanded Cancer Moonshot activities.

X. Repairs and Improvements

Funding for Repairs and Improvements allows NCI to operate facilities at the Frederick National Laboratory for Cancer Research at Fort Detrick, Maryland, as a modern research enterprise.

Budget Policy: The FY 2024 President's Budget request for this area is \$30.0 million, equal to the FY 2023 Enacted level.

**NATIONAL INSTITUTES OF HEALTH
National Cancer Institute**

Appropriations History¹

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2015	\$4,930,715,000			\$4,950,396,000
Rescission				\$0
2016	\$5,098,479,000	\$5,081,812,000	\$5,204,058,000	\$5,214,701,000
Rescission				\$0
2017 ²	\$5,893,509,000	\$5,388,444,000	\$5,429,769,000	\$5,689,329,000
Rescission				\$0
2018	\$4,474,222,000	\$5,771,181,000	\$5,858,270,000	\$5,964,800,000
Rescission				\$0
2019	\$5,626,312,000	\$6,136,037,000	\$6,147,125,000	\$6,143,892,000
Rescission				\$0
2020	\$5,246,737,000	\$6,444,165,000	\$6,351,863,000	\$6,440,442,000
Rescission				\$0
2021	\$5,881,173,000	\$6,494,155,000	\$6,722,656,000	\$6,559,852,000
Rescission				\$0
2022	\$6,733,302,000	\$6,994,056,000	\$6,772,469,000	\$6,912,522,000
Rescission				\$0
2023	\$6,713,851,000	\$7,378,579,000	\$7,203,064,000	\$7,320,159,000
Rescission				\$0
2024	\$7,820,159,000			

¹ Includes funds derived by transfer from the NIH Innovation Account under the 21st Century Cures

² Budget Estimate to Congress includes mandatory financing.

AUTHORIZING LEGISLATION

**NATIONAL INSTITUTES OF HEALTH
National Cancer Institute**

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2023 Amount Authorized	FY 2023 Enacted	2024 Amount Authorized	FY 2024 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	\$7,317,241,000	Indefinite	\$7,820,159,000
National Cancer Institute	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				\$7,317,241,000		\$7,820,159,000

NATIONAL INSTITUTES OF HEALTH
National Cancer Institute

Amounts Available for Obligation ¹
(Dollars in Thousands)

Source of Funding	FY 2022 Final	FY 2023 Enacted	FY 2024 President's Budget
Appropriation ^{2,3}	\$6,912,522	\$7,320,159	\$7,820,159
OAR HIV/AIDS Transfers	-\$2,896	-\$2,918	\$0
Subtotal, adjusted budget authority	\$6,909,626	\$7,317,241	\$7,820,159
Unobligated balance, start of year ⁴	\$185,106	\$201,631	\$0
Unobligated balance, end of year (carryover) ⁵	-\$201,631	\$0	\$0
Subtotal, adjusted budget authority	\$6,893,101	\$7,518,872	\$7,820,159
Unobligated balance lapsing	-\$248	\$0	\$0
Total obligations	\$6,892,853	\$7,518,872	\$7,820,159

¹ Excludes the following amounts (in thousands) for reimbursable activities carried out by this account:
FY 2022 - \$28,683 FY 2023 - \$25,000 FY 2024 - \$25,000

² Of which \$194.0 million in FY 2022 and \$216.0 million in FY 2023 is derived by transfer from the NIH Innovation Account under the 21st Century Cures Act.

³ Of which \$50.0 million is included for the Childhood Cancer Data Initiative (CCDI) in all years.

⁴ In FY 2022, reflects 21st Century Cures Act funding carried over from FY 2017 through FY 2021 into FY 2022. In FY 2023, reflects 21st Century Cures Act funding carried over from FY 2017 through FY 2022 into FY 2023.

⁵ Reflects 21st Century Cures Act funding carried over from FY 2017 through FY 2022 into FY 2023.

BUDGET AUTHORITY BY OBJECT CLASS

**NATIONAL INSTITUTES OF HEALTH
National Cancer Institute**

Budget Authority by Object Class¹
(Dollars in Thousands)

	FY 2023 Enacted	FY 2024 President's Budget	FY 2024 +/- FY 2023
Total compensable workyears:			
Full-time equivalent	3,320	3,468	148
Full-time equivalent of overtime and holiday hours	2	2	0
Average ES salary	\$212	\$212	\$0
Average GM/GS grade	12.7	12.7	0.0
Average GM/GS salary	\$131	\$138	\$7
Average salary, Commissioned Corps (42 U.S.C. 207)	\$111	\$117	\$6
Average salary of ungraded positions	\$161	\$170	\$9
OBJECT CLASSES	FY 2023 Enacted	FY 2024 President's Budget	FY 2024 +/- FY 2023
Personnel Compensation			
11.1 Full-Time Permanent	\$277,751	\$296,722	\$18,971
11.3 Other Than Full-Time Permanent	\$165,392	\$174,844	\$9,452
11.5 Other Personnel Compensation	\$18,084	\$19,137	\$1,053
11.7 Military Personnel	\$3,554	\$3,781	\$227
11.8 Special Personnel Services Payments	\$76,172	\$80,414	\$4,242
11.9 Subtotal Personnel Compensation	\$540,953	\$574,897	\$33,945
12.1 Civilian Personnel Benefits	\$172,869	\$183,011	\$10,142
12.2 Military Personnel Benefits	\$827	\$880	\$53
13.0 Benefits to Former Personnel	\$0	\$0	\$0
Subtotal Pay Costs	\$714,649	\$758,788	\$44,139
21.0 Travel & Transportation of Persons	\$8,228	\$8,423	\$194
22.0 Transportation of Things	\$1,772	\$1,867	\$94
23.1 Rental Payments to GSA	\$30,126	\$32,204	\$2,077
23.2 Rental Payments to Others	\$19	\$18	\$0
23.3 Communications, Utilities & Misc. Charges	\$5,396	\$6,667	\$1,272
24.0 Printing & Reproduction	\$50	\$37	-\$14
25.1 Consulting Services	\$368,260	\$368,879	\$619
25.2 Other Services	\$373,819	\$411,990	\$38,171
25.3 Purchase of Goods and Services from Government Accounts	\$636,398	\$737,165	\$100,767
25.4 Operation & Maintenance of Facilities	\$2,145	\$3,078	\$933
25.5 R&D Contracts	\$554,352	\$642,707	\$88,355
25.6 Medical Care	\$8,514	\$8,711	\$196
25.7 Operation & Maintenance of Equipment	\$36,595	\$37,095	\$501
25.8 Subsistence & Support of Persons	\$0	\$0	\$0
25.0 Subtotal Other Contractual Services	\$1,980,084	\$2,209,625	\$229,541
26.0 Supplies & Materials	\$49,106	\$49,124	\$18
31.0 Equipment	\$22,793	\$23,129	\$337
32.0 Land and Structures	\$14,163	\$14,841	\$677
33.0 Investments & Loans	\$0	\$0	\$0
41.0 Grants, Subsidies & Contributions	\$4,490,416	\$4,714,964	\$224,548
42.0 Insurance Claims & Indemnities	\$0	\$0	\$0
43.0 Interest & Dividends	\$63	\$68	\$5
44.0 Refunds	\$0	\$0	\$0
Subtotal Non-Pay Costs	\$6,602,592	\$7,061,371	\$458,779
Total Budget Authority by Object Class	\$7,317,241	\$7,820,159	\$502,918

¹ Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

NATIONAL INSTITUTES OF HEALTH

National Cancer Institute

Salaries and Expenses

(Dollars in Thousands)

Object Classes	FY 2023 Enacted	FY 2024 President's Budget	FY 2024 +/- FY 2023
<u>Personnel Compensation</u>			
Full-Time Permanent (11.1)	\$277,751	\$296,722	\$18,971
Other Than Full-Time Permanent (11.3)	\$165,392	\$174,844	\$9,452
Other Personnel Compensation (11.5)	\$18,084	\$19,137	\$1,053
Military Personnel (11.7)	\$3,554	\$3,781	\$227
Special Personnel Services Payments (11.8)	\$76,172	\$80,414	\$4,242
Subtotal, Personnel Compensation (11.9)	\$540,953	\$574,897	\$33,945
Civilian Personnel Benefits (12.1)	\$172,869	\$183,011	\$10,142
Military Personnel Benefits (12.2)	\$827	\$880	\$53
Benefits to Former Personnel (13.0)	\$0	\$0	\$0
Subtotal Pay Costs	\$714,649	\$758,788	\$44,139
Travel & Transportation of Persons (21.0)	\$8,228	\$8,423	\$194
Transportation of Things (22.0)	\$1,772	\$1,867	\$94
Rental Payments to Others (23.2)	\$19	\$18	\$0
Communications, Utilities & Misc. Charges (23.3)	\$5,396	\$6,667	\$1,272
Printing & Reproduction (24.0)	\$50	\$37	-\$14
<u>Other Contractual Services</u>			
Consultant Services (25.1)	\$276,277	\$287,845	\$11,568
Other Services (25.2)	\$373,819	\$411,990	\$38,171
Purchase of Goods and Services from Government Accounts (25.3)	\$478,836	\$556,809	\$77,972
Operation & Maintenance of Facilities (25.4)	\$2,145	\$3,078	\$933
Operation & Maintenance of Equipment (25.7)	\$36,595	\$37,095	\$501
Subsistence & Support of Persons (25.8)	\$0	\$0	\$0
Subtotal Other Contractual Services	\$1,167,672	\$1,296,817	\$129,145
Supplies & Materials (26.0)	\$49,481	\$49,528	\$47
Subtotal Non-Pay Costs	\$1,232,618	\$1,363,357	\$130,738
Total Administrative Costs	\$1,947,267	\$2,122,145	\$174,877

DETAIL OF FULL-TIME EQUIVALENT EMPLOYMENT (FTE)

**NATIONAL INSTITUTES OF HEALTH
National Cancer Institute**

Detail of Full-Time Equivalent Employment (FTE)

Office	FY 2022 Final			FY 2023 Enacted			FY 2024 President's Budget		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Extramural Activities									
Direct:	88	2	90	88	2	90	92	2	94
Total:	88	2	90	88	2	90	92	2	94
Office of the Director									
Direct:	878	3	881	908	3	911	968	3	971
Reimbursable:	4	-	4	4	-	4	4	-	4
Total:	882	3	885	912	3	915	972	3	975
Center for Cancer Research									
Direct:	1,442	11	1,453	1,521	11	1,532	1,523	11	1,534
Reimbursable:	7	-	7	7	-	7	7	-	7
Total:	1,449	11	1,460	1,528	11	1,539	1,530	11	1,541
Division of Cancer Biology									
Direct:	51	-	51	55	-	55	59	-	59
Total:	51	-	51	55	-	55	59	-	59
Division of Cancer Treatment and Diagnosis									
Direct:	237	1	238	251	-	251	312	-	312
Total:	237	1	238	251	-	251	312	-	312
Division of Cancer Prevention									
Direct:	97	1	98	104	1	105	109	1	110
Total:	97	1	98	104	1	105	109	1	110
Division of Cancer Control and Population Sciences									
Direct:	177	1	178	178	1	179	182	1	183
Reimbursable:	3	-	3	3	-	3	3	-	3
Total:	180	1	181	181	1	182	185	1	186
Division of Cancer Epidemiology and Genetics									
Direct:	177	2	179	181	2	183	189	2	191
Total:	177	2	179	181	2	183	189	2	191
Total	3,161	21	3,182	3,300	20	3,320	3,448	20	3,468
Includes FTEs whose payroll obligations are supported by the NIH Common Fund.									
FTEs supported by funds from Cooperative Research and Development Agreements.	0	0	0	0	0	0	0	0	0
FISCAL YEAR	Average GS Grade								
2020	12.6								
2021	12.7								
2022	12.7								
2023	12.7								
2024	12.7								

NATIONAL INSTITUTES OF HEALTH
National Cancer Institute

Detail of Positions¹

GRADE	FY 2022 Final	FY 2023 Enacted	FY 2024 President's Budget
Total, ES Positions	2	3	3
Total, ES Salary	\$407,400	\$636,300	\$636,300
General Schedule			
GM/GS-15	330	325	325
GM/GS-14	486	505	543
GM/GS-13	629	678	730
GS-12	396	412	444
GS-11	154	162	173
GS-10	7	7	8
GS-9	107	108	117
GS-8	30	32	32
GS-7	35	38	38
GS-6	6	6	6
GS-5	11	11	11
GS-4	7	4	4
GS-3	4	4	4
GS-2	4	4	4
GS-1	2	2	2
Subtotal	2,208	2,298	2,441
Commissioned Corps (42 U.S.C. 207)			
Assistant Surgeon General	0	0	0
Director Grade	10	8	8
Senior Grade	1	3	3
Full Grade	7	7	7
Senior Assistant Grade	4	2	2
Assistant Grade	0	0	0
Subtotal	22	20	20
Ungraded	1,003	1,151	1,156
Total permanent positions	2,186	2,223	2,360
Total positions, end of year	3,235	3,472	3,620
Total full-time equivalent (FTE) employment, end of year	3,182	3,320	3,468
Average ES salary	\$203,700	\$212,100	\$212,100
Average GM/GS grade	12.7	12.7	12.7
Average GM/GS salary	\$126,455	\$131,241	\$138,227

¹ Includes FTEs whose payroll obligations are supported by the NIH Common Fund.