

NCI Director's Report

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Director, National Cancer Institute

February 27, 2023

Frederick National Laboratory Advisory Committee (FNLAC)

12th Virtual Meeting

@NCIDirector
@TheNCI

Today's talk

- Recent progress & what it will take to sustain and accelerate it
- Budget outlook
- National Cancer Plan
- FNL program updates

State of the Union Address

February 7, 2023



“ For the lives we can save and for the lives we have lost, let this be a truly American moment that **rallies the country and the world together** and proves that we can still do big things.

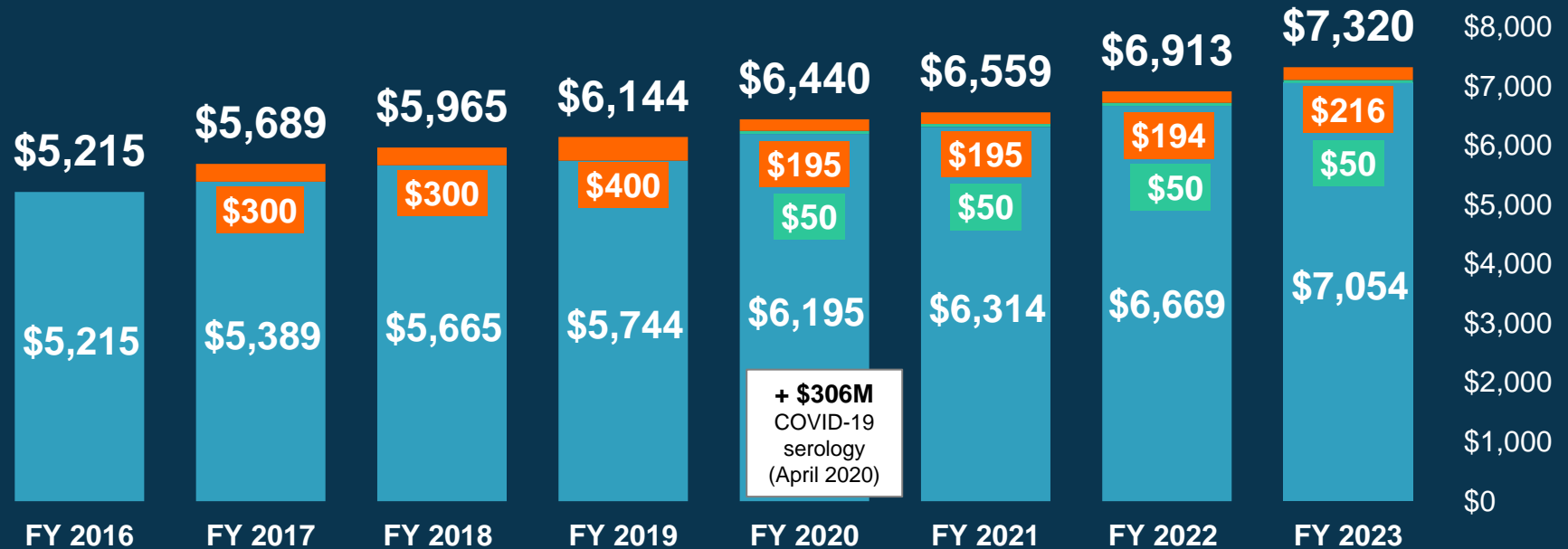
Let's end cancer as we know it and cure some cancers once and for all. ”

– President Biden
February 7, 2023

NCI Appropriations

FY 2016 – 2023 (in millions)

21st Century Cures Act - orange
 Childhood Cancer Initiative - green



NCI Research Project Grants (RPG) Funding Policy for Fiscal Year 2023

Competing Grants		Non-Competing Grants
TYPE	PAYLINE	
R01 Grants for Established and New Investigators	12th Percentile	Will be funded at 98% of the committed level. Exempt from the 2% reduction: <ul style="list-style-type: none"> • Training awards • R00, R03, R50 • SBIR/STTR awards • P30 Cancer Center awards
R01 Grants for Early-Stage Investigators (ESIs)	17th Percentile	
R21 Exploratory Grants	9th Percentile	



cancer.gov/grants-training/nci-bottom-line-blog

NCI Funds More Research Grants Thanks to Action by Congress

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February 6, 2023, by NCI Director Dr. Monica Bertagnoli

In this edition, NCI Director Dr. Monica Bertagnoli discusses the opportunities created by NCI's FY 2023 budget, including a \$386 million increase, plus an additional \$22 million for the Cancer Moonshot established by the 21st Century Cures Act of 2016. The generous support from Congress allows NCI to award more compelling cancer research and increase paylines for R01 and early-stage investigator grants.



NCI Director Dr. Monica Bertagnoli

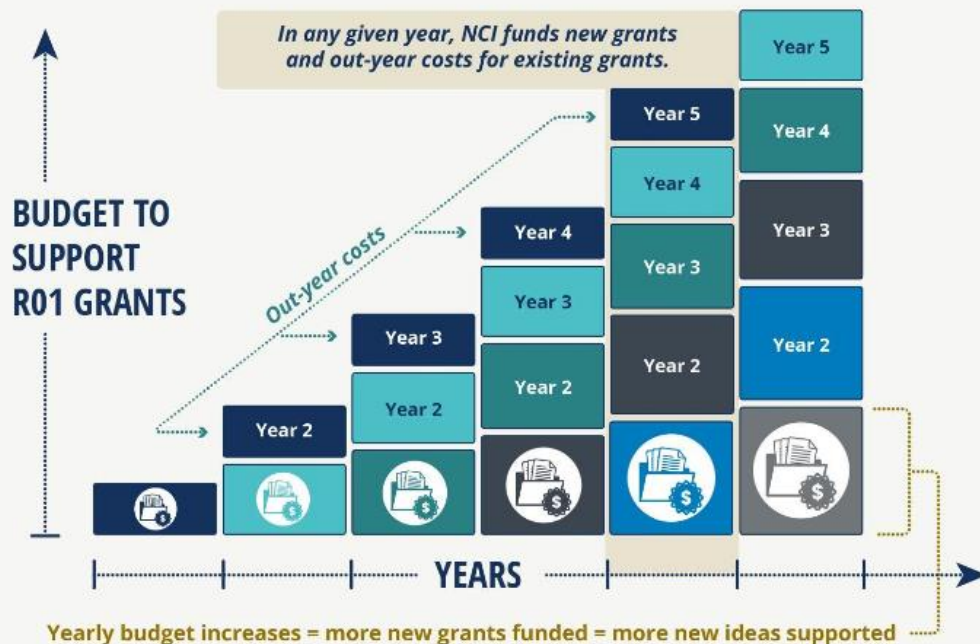
On December 29, 2022, President Biden signed legislation that provided funding for NCI, NIH, and other federal government agencies through September 30, 2023.

In this legislation, Congress once again demonstrated its deep concern for people with cancer and strong commitment to the research NCI funds. The legislation signed by the President provides an NCI budget increase of \$386 million for fiscal year (FY) 2023, plus an additional \$22 million for the Cancer Moonshot established by the 21st Century Cures Act of 2016. Taken together, this is nearly a 6% increase—the second largest percentage increase for NCI in the past 10 years. The funding will allow NCI to award more compelling cancer research and to increase grant paylines for [R01 grants](#), including [early-stage investigator \(ESI\) R01s](#).

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FUNDING MORE NEW R01 GRANTS EACH YEAR: AN INCREASING STAIR-STEP EFFECT ON NCI'S COSTS

NCI must have sustained funding increases to support as many new ideas as possible, to take advantage of emerging opportunities, and to attract and retain the cancer research workforce.



NATIONAL CANCER ACT of 1971



NATIONAL CANCER PROGRAM



NATIONAL CANCER PLAN

A plan for the **National Cancer Program** to align broad societal engagement and focus on critical needs to end cancer as we know it.

Everyone has a role!

Advanced Research Projects Agency for Health (ARPA-H)

Mission:

Accelerate better health outcomes for everyone.



Renee Wegrzyn, Director



October 2022:

- Inaugural ARPA-H Director is sworn in

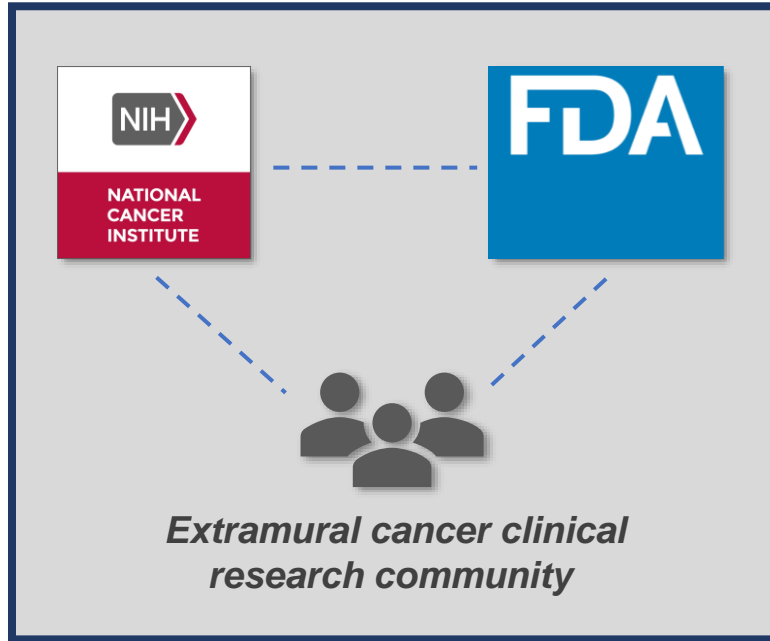
December 2022:

- Consolidated Appropriations Act, 2023 provides additional \$1.5B for ARPA-H and provides agency authorities

January/February 2023:

- First solicitations for Systems Engineering and Technical Assistance (SETA) support and Partnership Intermediary Agreement (PIA) transition capability
- First technical leaders onboarding

Clinical Trials Innovation Unit



The CTIU will:

- ✓ **Complement Clinical Trials Support Unit** and other existing processes
- ✓ **Select a few high-priority studies for new study designs** and operational procedures
- ✓ **Help speed clinical testing to deliver new approaches** for diagnosis, treatment, and prevention of cancer

RAS Initiative: Updates

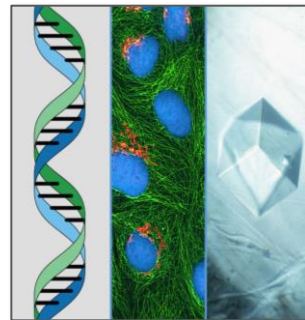


RAS Initiative's Primary Goal

Develop drugs that target RAS cancers, through internal and **collaborative drug discovery and development** programs and through a better understanding of RAS biology

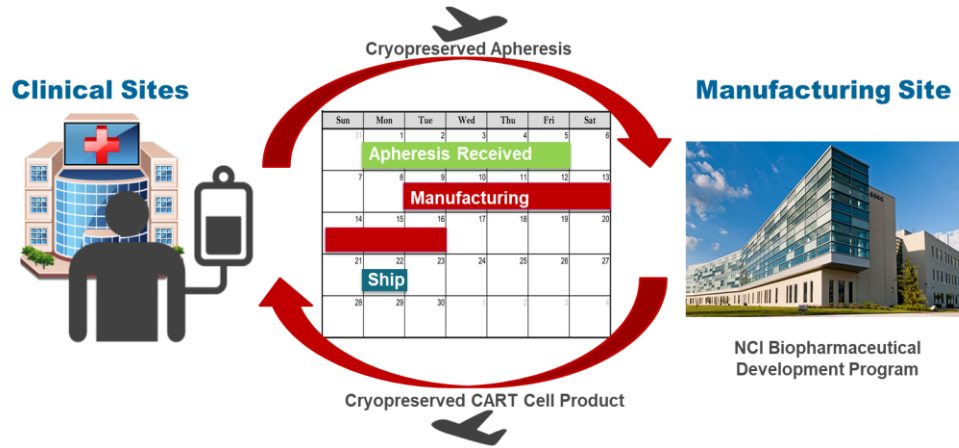
Reagents distributed around the world: 623 universities and nonprofit organizations, 43 states, 45 countries, 6 continents

- **13,127 plasmids & vectors** distributed through Addgene
- **1,503 cell lines** distributed from FNLCR
- RAS-dependent mouse embryonic fibroblasts (MEFs) licensed to **23 companies** and distributed to **97 academic groups**
- KRAS-FMe materials licensed to **7 companies**



Reagents developed by RAS Reagents Group

Cell Therapy Manufacturing Expansion



FUTURE ADDED TECHNOLOGY

- G-Rex (disposable flask) and Wave manufacturing platforms
- CRISPR-based gene editing

ADDED CAPACITY

- ~12 cell therapy products/month
- ~8 virus vector campaigns/year
- Controlled storage for cell and virus products

ADDED FACILITY

- 3 new GMP* suites: Q2 2023
- Freezer farm: Q1 2023

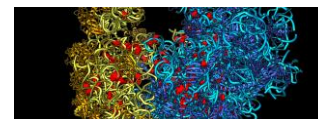
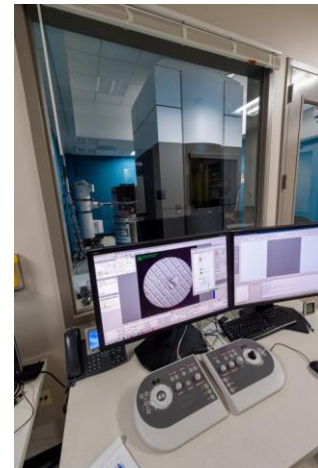
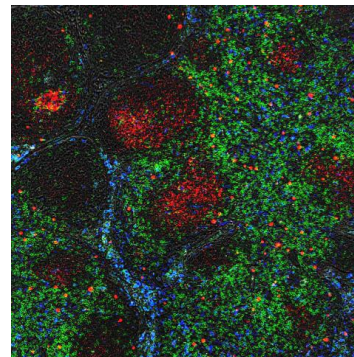
**GMP = Good Manufacturing Practice*

Resources Available to External Research Community



Technical Service Areas

- Genomics/Gene Expression
- Nanotechnology
- HIV/AIDS – SIV (Simian immunodeficiency virus)
- Preclinical Development



National Cryo-Electron Microscopy Facility (NCEF)

Uses the latest imaging technology to collect high-resolution structural data on proteins

Learn more:

www.frederick.cancer.gov/collaborations

www.frederick.cancer.gov/resources

FNLCR Awareness Campaign Updates



Cancer Currents: An NCI Cancer Research Blog

Subscribe

Coming soon...

Blog post by Dr. Doug Lowy that discusses FNLCR initiatives and resources and looks ahead to the next 10 years.



Video marking 10 years since FNLCR was named a national lab. View at: youtube.com/NCIgov (Nov. 9, 2022)

Spring 2023

Restructured FNLCR website with refreshed content



Goals include: Better allow extramural researchers to locate tools/resources; highlight opportunities for collaboration with FNLCR; attract new talent.

SeroNet: Serological Sciences Network

Research Advances



Substantial neutralization escape by SARS-CoV-2 omicron variants BQ.1.1 and XBB.1	Immunogenicity of BA.5 Bivalent mRNA Vaccine Boosters	Enhanced neutralization resistance of SARS-CoV-2 Omicron subvariants BQ.1, BQ.1.1, BA.4.6, BF.7, and BA.2.75.2	Antibody binding and neutralization of live SARS-CoV-2 variants including BA.4/5 following booster vaccination of patients with B-cell malignancies	Antibody response to COVID-19 mRNA vaccine in patients with lung cancer after primary immunization and booster: Reactivity to the SARS-CoV-2 WT virus and omicron variant	Augmentation of humoral and cellular immune responses after third-dose SARS-CoV-2 vaccination and viral neutralization in myeloma patients
<i>New England Journal of Medicine</i> Feb. 16, 2023	<i>New England Journal of Medicine</i> Feb. 9, 2023	<i>Cell Host & Microbe</i> Jan. 11, 2023	<i>Cancer Research Communications</i> Dec. 22, 2022	<i>Journal of Clinical Oncology</i> June 27, 2022	<i>Cancer Cell</i> May 9, 2022

SeroNet Resources	87 Studies 312 Data Files	Most studies are focused on: immune response (34), vaccine response (21), and infection response (19)
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Frederick National Laboratory Community Workshops

12 
workshops

8 **4**
general **focused**
sessions **sessions**



74+ 
participants

100+ 
ideas generated

Next step: Summary of ideas and presentation to NCI leadership

Thank you!

www.cancer.gov

www.cancer.gov/espanol

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