NCI Acting Director's Report

Douglas R. Lowy, M.D.

10th Virtual Meeting of the Frederick National Laboratory Advisory Committee

June 27, 2022

@NCIDirector
@TheNCI

Today's talk

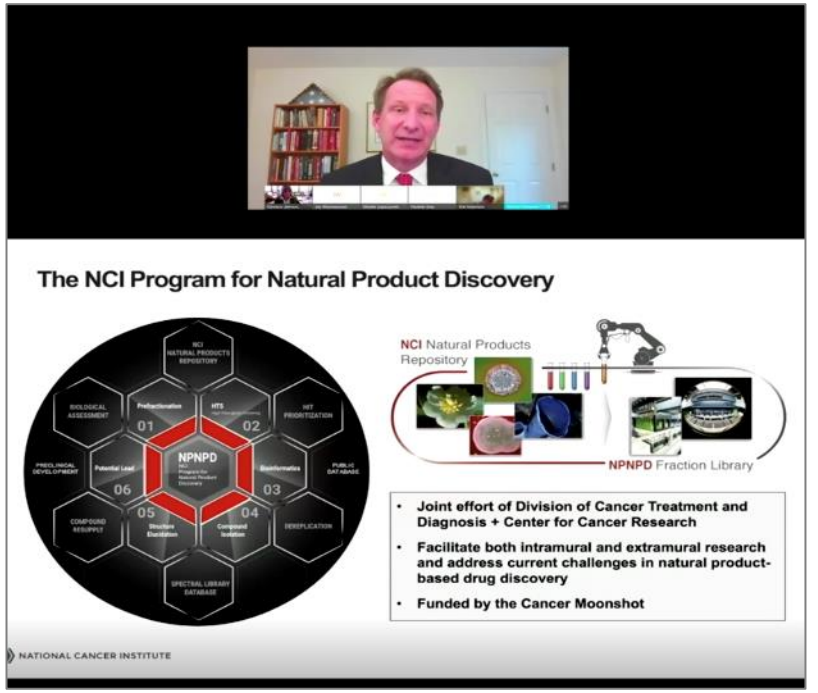
- 10 Years as a National Lab and of FNLAC!
- Continuity of NCI Leadership
- FY23 NCI budget
- Some Research Updates
- Cancer Moonshot: Success of Initial Investments and New, "Supercharged" Activity

A Decade of FNLCR and FNLAC

Then…

First NCI Frederick Advisory Committee meeting – Jan. 25, 2012

Now…

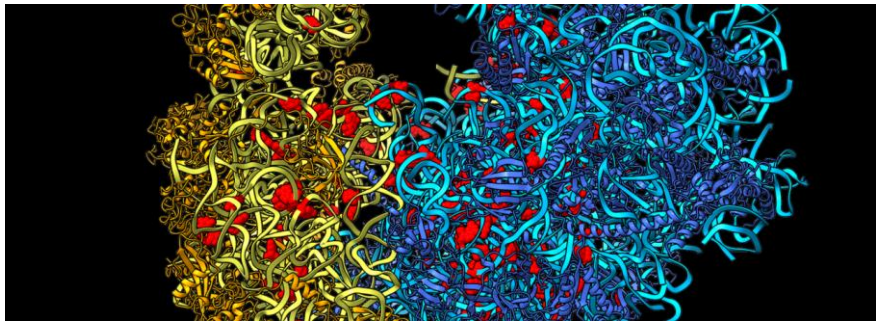


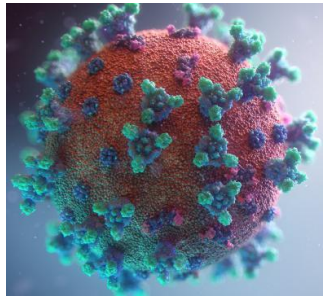
Most recent FNLAC meeting: Feb. 24, 2022

FNLCR Awareness Campaign

Activities underway:

- Qualtrics survey of **extramural researcher awareness**
- **Outreach** at AACR, other conferences
- **Central resources page** on FNLCR website, frederick.cancer.gov/resources
- Plans for marking FNL's **10 years of being named a national laboratory** (Fall 2022)





Images from frederick.cancer.gov

RFP for FFRDC contract recompetition solicitation posted (June 23, 2022): Acquisition Notices for NCI's FFRDC - NCI (cancer.gov)

NCI Directors: Continuity since 2010

Harold E. Varmus, M.D.
2010 – 2015

Norman E. "Ned" Sharpless, M.D.
2017 – 2022

Douglas R. Lowy, M.D. (Acting)
2015 – 2017, 2019, 2022

NCI Leadership Team

James H. Doroshow, MD	Deputy Director	Since 2011
Dinah S. Singer, PhD	Deputy Director	Since 2016
Douglas R. Lowy, MD	Deputy Director	Since 2010
Donna Siegle	Executive Officer/Deputy Director for Management	Since 2016
Eric Cole	Deputy Executive Officer	Since 2019
Patrick McGarey, JD	Associate Director for Finance and Legislation	Since 2015
Anne Lubenow	Chief of Staff, previously Deputy Executive Officer	Since 2019/2011
Maureen Johnson, PhD	Special Assistant to the Director	Since 2006

Some Key NCI Initiatives and Decisions 2015 - 2019

2015 **Precision Medicine Initiative-Oncology**

2015 **National Cryo-EM user facility** at Frederick National Laboratory

2016 **Cancer Moonshot** (21st Century Cures Act)

2016-2022 **>$40M increase to P30 support grants for NCI-designated cancer centers**

2019 Enabled Congress to recognize low NCI funding rates for **investigator-initiated research**

Some Current and Near-Future NCI Activities

CANCER GRAND CHALLENGES	CANCER MOONSHOT	CANCER CENTERS	FREDERICK NATIONAL LAB
• **With Cancer Research UK** • First awards announced June 16 • Participate in development and process for next round	• Continue to fund the most promising initiatives of the initial Cancer Moonshot: a "soft landing" • Year of planning for next phase	• Develop Phase 3 for the P30 Cancer Center Support Grants	• Select at least one new signature project at Frederick National Lab

For more on Cancer Grand Challenges, see press release (June 16, 2022):
cancer.gov/news-events/press-releases/2022/cancer-grand-challenges-funded-teams

FY 2023 Budget Request for the National Institutes of Health
House Committee on Appropriations Hearing, May 11, 2022

"This [2022 omnibus] includes an increase of $353 million to fund a greater number of research proposals at the NCI and support for the Cancer Moonshot initiative **that will save lives by speeding cancer research progress and improving prevention detection and treatment efforts.**"

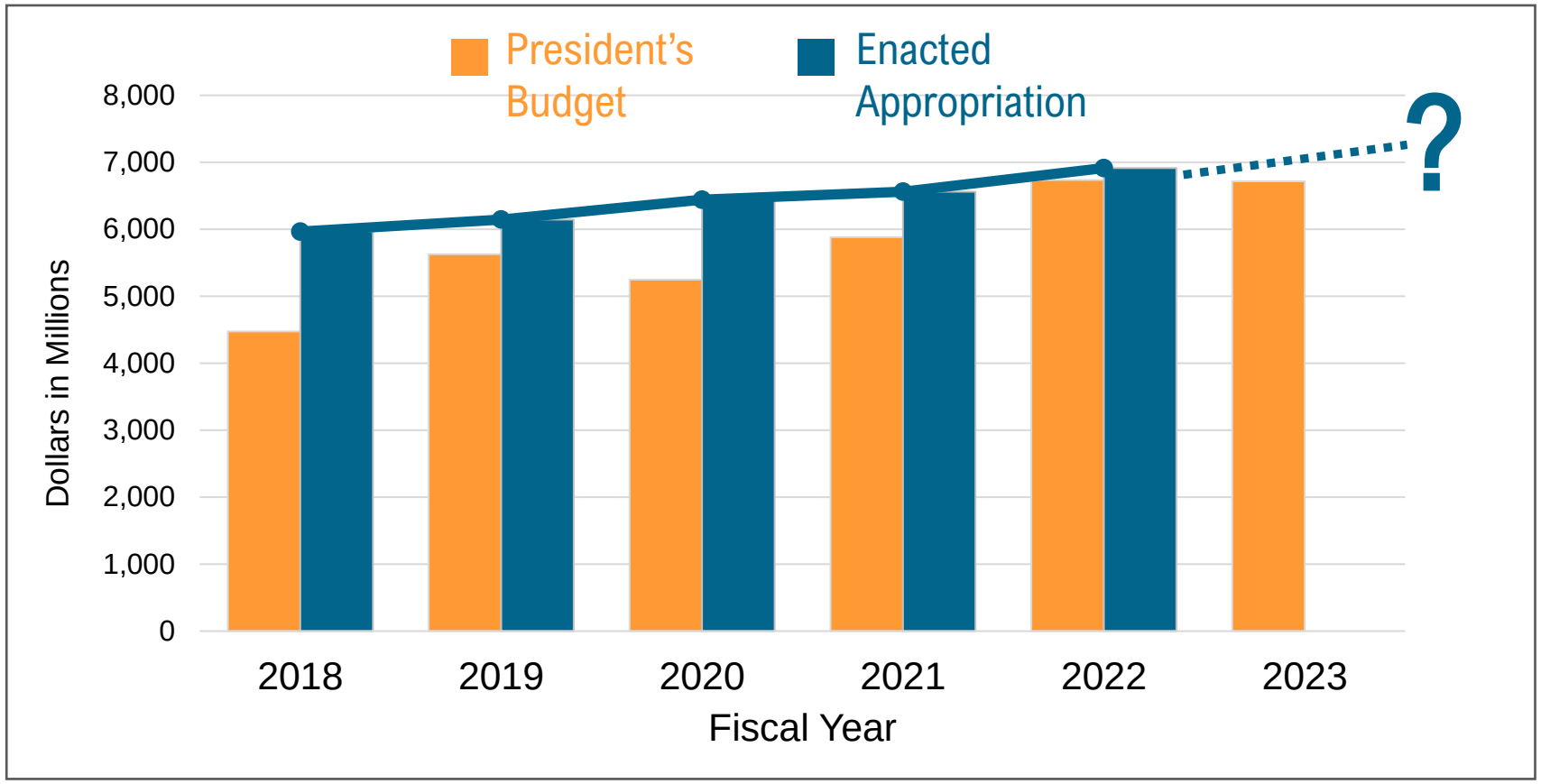
–Chair Rosa DeLauro (D-CT)

"Cancer research… is something I think our investments with you all [NCI] are proving to be great… **the research is just truly incredible, as are the results.** So, keep up the good fight."

–Representative Chuck Fleischmann (R-TN)

Source: YouTube / House Appropriations Committee (May 11, 2022)

President's NCI Budget and Enacted Appropriations

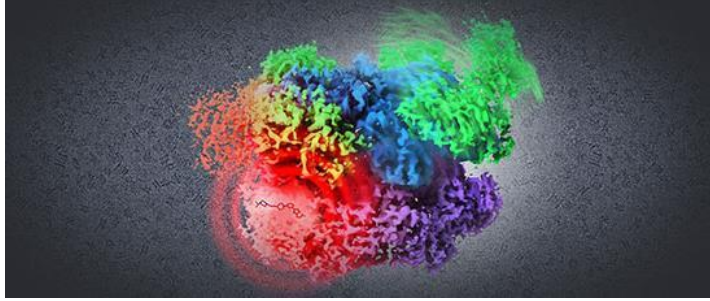


Source: NCI Budget Fact Book

- Strong bipartisan support for cancer research across Congress
- Congress has declined to cut funding to cancer research – even in challenging budget cycles

*House Labor-HHS Appropriations Subcommittee FY23 Bill **proposes $7.4 B for NCI***
*(includes $216 M for Cancer Moonshot) and would represent an overall **$466 M increase for NCI** over FY22*

National Cryo-EM Training Program



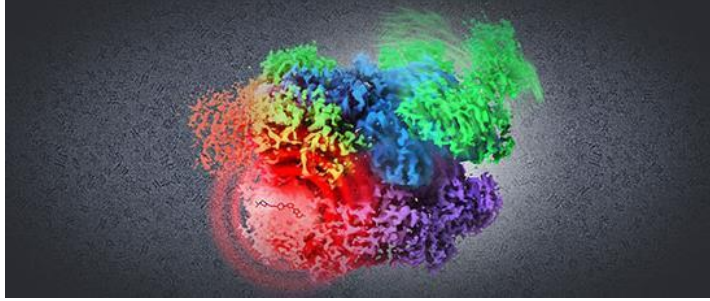
- 5-day training in September 2022
- Participants: 12 novice cryo-EM users
- Classroom lectures + hands-on laboratory training
- Topics include sample preparation, grid screening, data collection and processing, structure determination and model building and validation.

Technical Leads

- Jana Ognjenovic, PhD
- Thomas Edwards, PhD

"Update on the National Cryo-EM Facility" presented on October 18, 2021 at FNLAC meeting, by Dwight V. Nissley, PhD, Director, Cancer Research Technology Program, FNLCR

National Cryo-EM Training Program



12 novice cryo-EM users make up the inaugural training program – from:

- University of Colorado Anschutz Medical Campus
- Los Alamos National Laboratory
- Medical College of Wisconsin, Dept. of Pharmacology and Toxicology
- University of Cincinnati
- City University of New York (CUNY)
- Dana-Farber Cancer Institute
- University of Pennsylvania
- University of Florida
- SUNY Upstate Medical University
- Johns Hopkins University School of Medicine
- University of Maryland School of Medicine
- University of California San Francisco

Center of Excellence for Serology Development and Emergency Preparedness

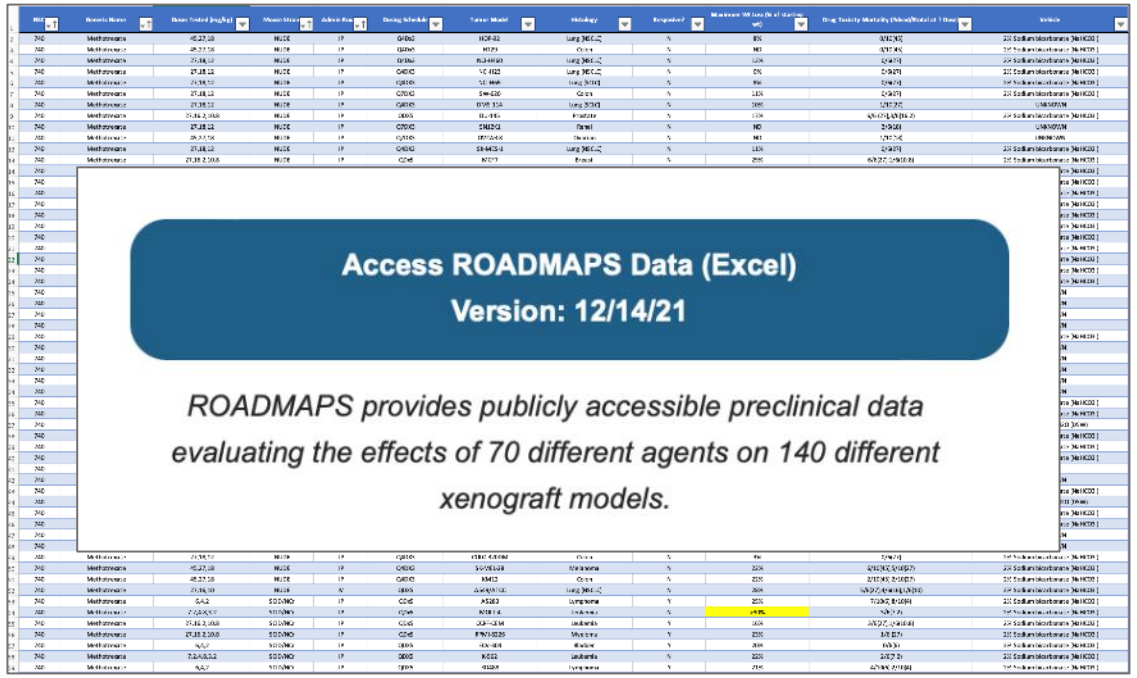
FOCUS AREAS:

- Development and **standardization** of serological testing
- **Best practices** for the serology community
- **Coordination, generation, & distribution of resources** needed for the creation and validation of serological assays and reagents for the scientific community.

Photo: frederick.cancer.gov/initiatives/seronet

Funded by HHS

ROADMAPS: Responses to Oncology Agents and Dosing in Models to Aid Preclinical Studies



dtp.cancer.gov/databases_tools/roadmaps.htm

- All of NCI's xenograft testing results are online and in a searchable database – for the first time
- Includes data that can be used to identify dosing regimens, providing a resource for planning preclinical studies

For more: Hollingshead, et al. **ROADMAPS: An Online Database of Response Data, Dosing Regimens, and Toxicities of Approved Oncology Drugs as Single Agents to Guide Preclinical In Vivo Studies**. *Cancer Research.* June 15, 2022.

Advances in treating *KRAS* mutants in people with cancer

No. of new cancer cases per year in the U.S. that contain the most frequent *KRAS* mutant alleles

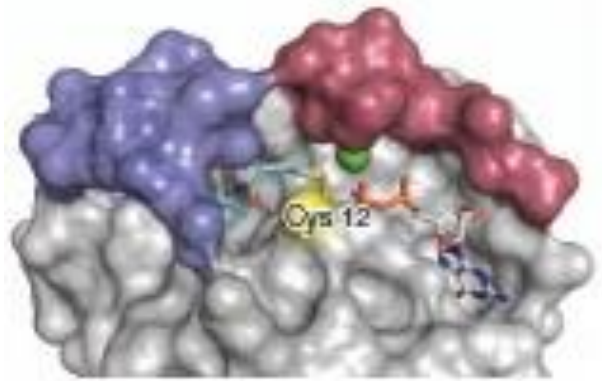
	All *KRAS*	G12C	G12D
Lung	45,600	**23,000**	9,200
Pancreas	32,200	1,000	**19,500**
Colorectal	60,000	5,700	25,000
Total new cases per year	137,800	29,700	53,700

NCI-Frederick: Patient-derived Models Repository (pdmr.cancer.gov)

Specifically targeting mutant *KRAS:*

G12C inhibitor *FDA-approved May 28, 2021*

G12D inhibitor *clinical trials soon*



Ostram, et al, Nature 2013

RAS Initiative researchers have developed unique reagents at FNLCR for the cancer research community. Learn more at **cancer.gov/ras**

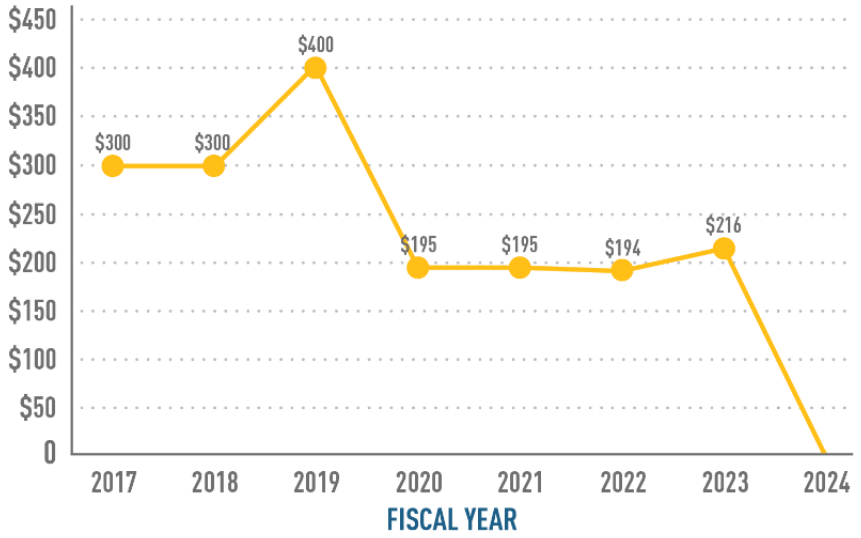
Cancer Moonshot℠: Accelerate discovery, increase collaboration, and expand data sharing

In the Cancer Moonshot's first 4 years (2017-2021)

- >2,000 Publications
- 49 Clinical Trials
- >30 Patent Filings

Cancer Moonshot Funding Authorized Under the 21st Century Cures Act

(dollars in millions)



We should continue to support the most promising initiatives from the initial Cancer Moonshot while developing additional activities to meet challenging new goals.

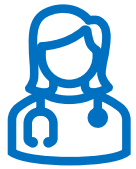
Goals of Cancer Moonshot Next Phase

1. Cut the cancer death rate in half within 25 years.
2. Transform the meaning of cancer.
3. Address cancer-associated inequities.

Accomplishing the New Goals

Invest in the pipeline of new drugs for cancer prevention, interception, and treatment

Ensure equitable health care delivery of current and new standards of care



Expand clinical trials to speed evaluation of candidate interventions in diverse populations (racial, ethnic, geographic)

Increase diversity of cancer research and care workforce to resemble the communities we serve

Some FY 23 Activities to Support Ongoing Moonshot and Jumpstart Next Phase

Upcoming Funding Opportunity Announcements (FOAs)

- Cancer Moonshot Scholars Diversity Program
- Feasibility Trial for Asymptomatic Multi-Cancer Detection Screening

Notices of Special Interest, Request for Information

- Adapt Visualization Methods to Enhance Cancer Moonshot Data
- Harmonize Existing Data to Human Tumor Atlas Network (HTAN) Standards
- Fusion Oncoproteins in Childhood Cancers

View details at cancer.gov/moonshot.

Thank you!

www.cancer.gov

www.cancer.gov/espanol

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