

NCI Director's Report

Norman E. Sharpless, M.D.

*15th Virtual Meeting of the National Cancer
Advisory Board*

September 1, 2021

@NCIDirector
@TheNCI

Commemoration across the Community

Cancer Centers

City of Hope
@cityofhope

The year 2021 marks the 50th anniversary of the National Cancer Act of 1971, which led to the creation of a nationwide network of Comprehensive Cancer Centers — the National Cancer Institute.
[cityofhope.org/breakthroughs/...](https://cityofhope.org/breakthroughs/) @TheNCI #NothingWillStopUs



Memorial Sloan Kettering Cancer Center
@mskcc

Did you know MSK opened the world's 1st #Pediatric Day Hospital to care for kids with cancer? This step allowed for our youngest patients to be seen on an outpatient basis, allowing them to return home on the day of treatment. #CancerResearchMonth #NothingWillStopUs #1B1 #MSKKids



Winship Cancer Institute of Emory University
@WinshipEmory

ICYMI: As part of the National Cancer Act's 50th Anniversary, @TheNCI is honoring Winship research leader Dr. Deborah Watkins Bruner as a changemaker for her work in patient-reported outcomes and symptom management. #NothingWillStopUs fal.cn/3fDXt



Rooswell Park
@RooswellPark

Replying to @NothingWillStopUs

To mark the 50th anniversary of the National Cancer Act, we'll be highlighting 50 important moments, people and innovations from our 120-plus-year history that have impacted the world of cancer and beyond. #WeSetTheModel #NothingWillStopUs



Cancer Organizations

Lasker Foundation
@LaskerFdn

2021 is the 50th Anniversary of the National Cancer Act, which created a nationally coordinated #cancer research program led by @theNCI. Mary #Lasker played a critical role in passing this legislation. #NothingWillStopUs #SupportMedicalResearch ow.ly/9YFy50EDEQc



Stand Up To Cancer
@SU2C

50 years ago, the National Cancer Act of 1971 gave new hope to cancer research. Learn how the Act helped to change the course of cancer research and why we are commemorating its 50th anniversary throughout 2021. #NothingWillStopUs #StandUpToCancer



Govt. Organizations

Minority Health
@MinorityHealth

Progress has been made but there's still more to do to address cancer #HealthDisparities. Learn more over the next several weeks as we share stories and resources focused on NCI's commitment to reduce the burden of cancer for all. go.usa.gov/x6K6p #NothingWillStopUs



President's Cancer Panel
@PresCancerPanel

Reflections on the 50th Anniversary of the National Cancer Act. Read about the history of the panel and plans for the future prescancerpanel.cancer.gov/node/136 #NCA50 #NothingWillStopUs





"We are not in search of a magic bullet, but rather are attempting to mobilize the best brain available in this nation and the world to ensure that they have an opportunity to make their maximum contribution to the cause of solving the cancer problem and of minimizing the time required for the solutions to benefit the cancer patient."


Dr. Benno C. Schmidt Sr.
First chair of the President's Cancer Panel





#ThisIsWhy We Work in Cancer Research

 **grn.carla** Because together we can make a great improvement in cancer treatment, saving lives. I personally started this career because of my mom. She was my biggest supporter, my inspiration. I lost her because of a gastric cancer when I was 19. She is the reason why I do what I do.

 **premagram** Because of my personal survival with cancer! ❤️
5d 2 likes Reply

 **angieflowers** because I believe in science and the power of hope. Together they have the potential to produce miracles.
5d 9 likes Reply

 **hannahwol** Because I want to move the needle of survivability and offer hope to patients!
5d 4 likes Reply

 **zee_zeinab_** Because I want to help prevent cancer and improve the survival of cancer patients so they can live a long and healthy life 💕
5d 18 likes Reply

I work in cancer research because

 **Stephanie L Goff, MD, FACS** @stlgoff_SB
I work in [#CancerResearch](#) because I have seen the experimental therapies give people their lives back, their futures back. We can make that the norm rather than the exception. [#ThisIsWhy](#) [#NothingWillStopUs](#)



 **Tony Kerlavage, Ph.D.** @NCIKerlavage · Aug 23
I work in cancer research because it presents very motivating & complex scientific challenges. Cancer touches everyone. I believe that contributing my experience in data science can help reduce the suffering from these devastating diseases. [#ThisIsWhy](#) [#NothingWillStopUs](#)

 **Terry Williams** @TWilliamsMD
I work in cancer research to bring new hope to patients with devastating disease. I've seen too much tragic loss and lives cut short. We've made great advances but there is so much more to do. [#NothingWillStopUs](#) [@CityofHope](#)

 **Masonic Cancer Center**
I want to find better ways to prevent & treat deadly women's cancers & uncover the inner workings of abnormal breast cancer cells. The more we know about cancer, the better equipped we'll be to halt disease progression & find cures.
Carol Lorge, PhD [#ThisIsWhy](#) [#NothingWillStopUs](#)



 **Yale Cancer Center** @YaleCancer
According to [@YaleCancer](#) Dr. Xavier Llor, knowledge is power when it comes to [#cancer](#) research and knowing your risk of developing cancer. [#ThisIsWhy](#) [#NothingWillStopUs](#) [#GITwitter](#) [@YNHH](#) [@SmilowCancer](#) [@YaleMed](#)



 **The Wistar Institute** @TheWistar · Aug 27
This year, [@theNCI](#) celebrates 50 years of the National Cancer Act. Stay tuned for [@TheWistar](#) staff to share personal reasons why they work in [#cancerresearch](#). bit.ly/2Y7SukZ [#ThisIsWhy](#) [#NothingWillStopUs](#)

"Several members of my family have passed from cancer, and I'm encouraged by promising research developed at Wistar that will positively impact future therapeutics."

- Lourdes Serco, Asst. Dir., Research & Administrative Services
The Wistar Institute



Media Interest



Cancer innovation

2021 marks the 50th anniversary of the National Cancer Act of 1971 — legislation that intended to end the "war on cancer" by expanding funding and authorities to the National Cancer Institute. Half a century since the act was signed into law, NCI and the biomedical research community have made leaps and bounds in cancer research, clinical trials, diagnostics and treatment. As NCI and the country continue to fight the war on cancer today, GovernmentCIO Media & Research is collaborating with the institute to bring you a six-part HealthCast miniseries to commemorate the National Cancer Act's impact. We're releasing episodes every other month throughout 2021 leading to the act's official anniversary in December.



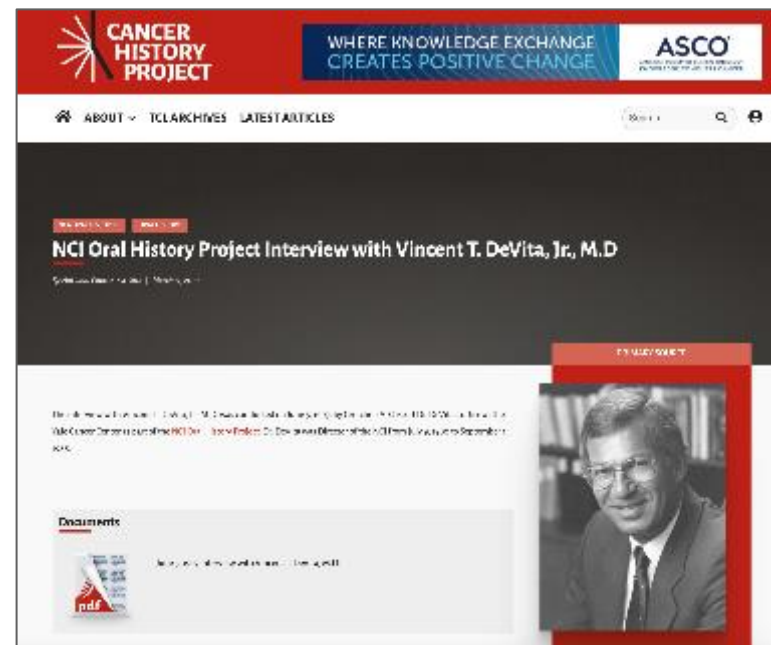
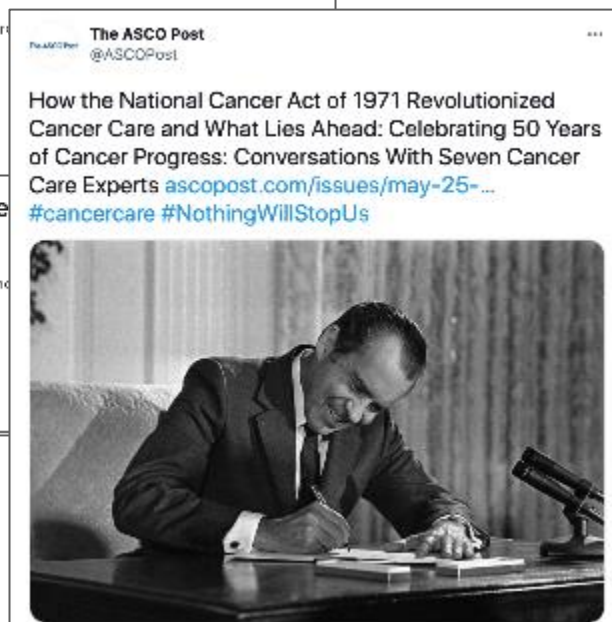
50 Years of Cancer: Progress in Overcoming Health Disparities

Making the fight against cancer more equitable requires diversifying cancer research and treatments.
Jun 30, 2021



50 Years of Cancer: The Road to Better Treatment Diagnostics

Clinical trials, innovation in public health.
Apr 29, 2021

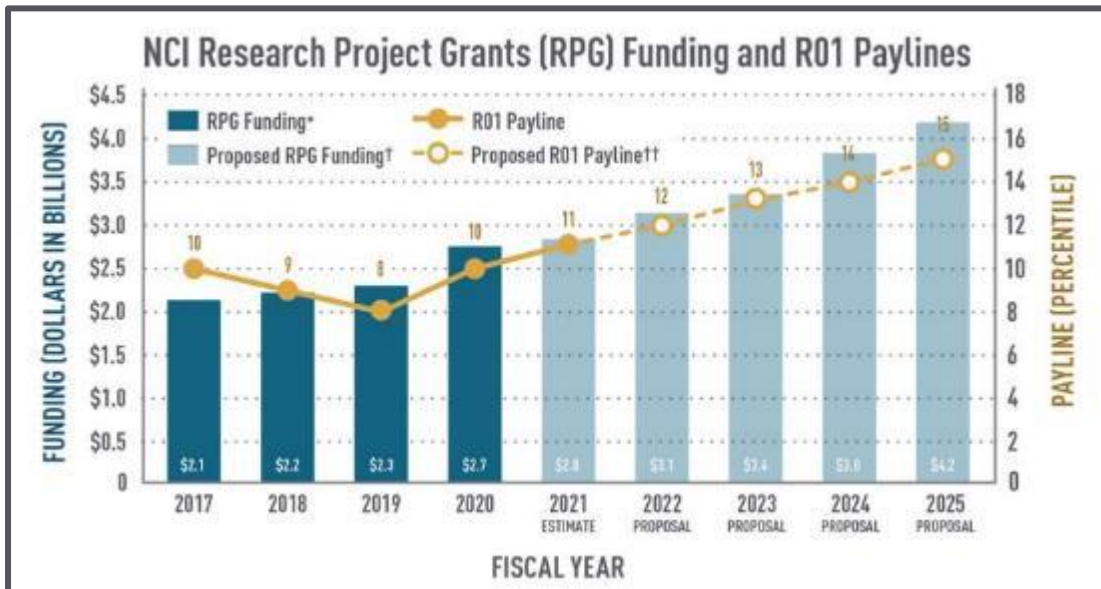


Annual Plan & Budget Proposal for Fiscal Year 2023



NCI PROFESSIONAL JUDGMENT BUDGET PROPOSAL FOR FISCAL YEAR 2023

(DOLLARS IN MILLIONS)



FISCAL YEAR 2021 NCI BASE APPROPRIATION	\$6,365*	
TOTAL BUDGET INCREASE (Proposed Allocation)	\$1,185†	<ul style="list-style-type: none"> \$277 Inflation Adjustment†† \$165 Cancer Biology Research \$185 Cancer Prevention Research \$150 Cancer Detection & Diagnosis Research \$205 Cancer Treatment Research \$125 Public Health & Cancer Control Research \$78 Training & Infrastructure
FY 2023 BUDGET RECOMMENDATION	\$7,550	
FY 2023 CANCER MOONSHOT SM FUNDING	\$216	
FY 2023 TOTAL	\$7,766	

National costs for cancer care were estimated to be

\$190.2 billion in 2015

\$208.9 billion in 2020

Modeled annual productivity cost from
cancer mortality

\$147.6 billion for 2020

Cathy J. Bradley, K. Robin Yabroff, Bassam Dahman, Eric J. Feuer, Angela Mariotto,
Martin L. Brown, Productivity Costs of Cancer Mortality in the United States: 2000–
2020, JNCI: Journal of the National Cancer Institute, Volume 100, Issue 24, 17
December 2008, Pages 1763–1770.



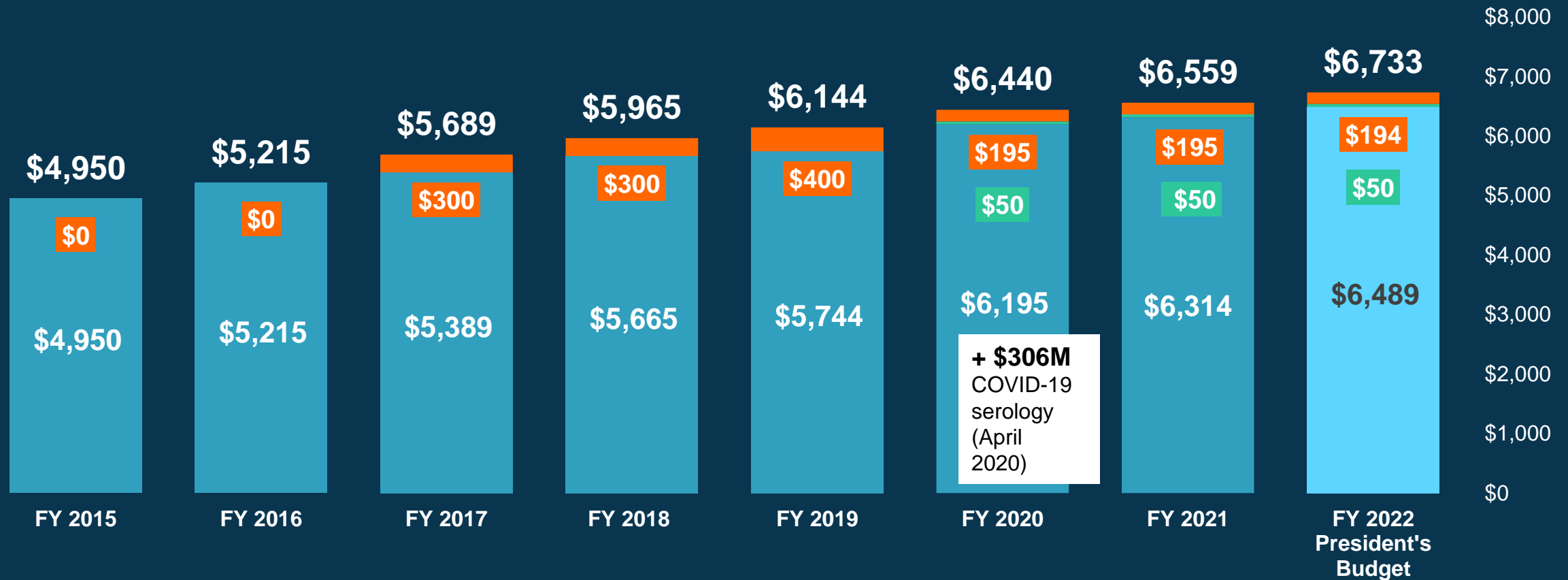
*If you think research is
expensive, try disease!*

Mary Lasker

NCI Appropriations

FY 2015 – 2022 (in millions)

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



Blue Ribbon Panel Report Anniversary Seminar

Reflections, Progress, and Potential of the Cancer MoonshotSM

The logo for the Cancer Moonshot initiative, featuring the words "CANCER MOONSHOT" in white capital letters on a dark blue background. A white circular graphic is positioned behind the text, with the top and bottom arcs visible, framing the word "MOONSHOT".

CANCER MOONSHOT

Thursday, September 9
12:00 – 1:00 pm EST

Speakers

Elizabeth Jaffee, M.D.
Tyler Jacks, Ph.D.
Elena Martinez, Ph.D.
Dinah S. Singer, Ph.D.
Norman E. Sharpless, M.D.

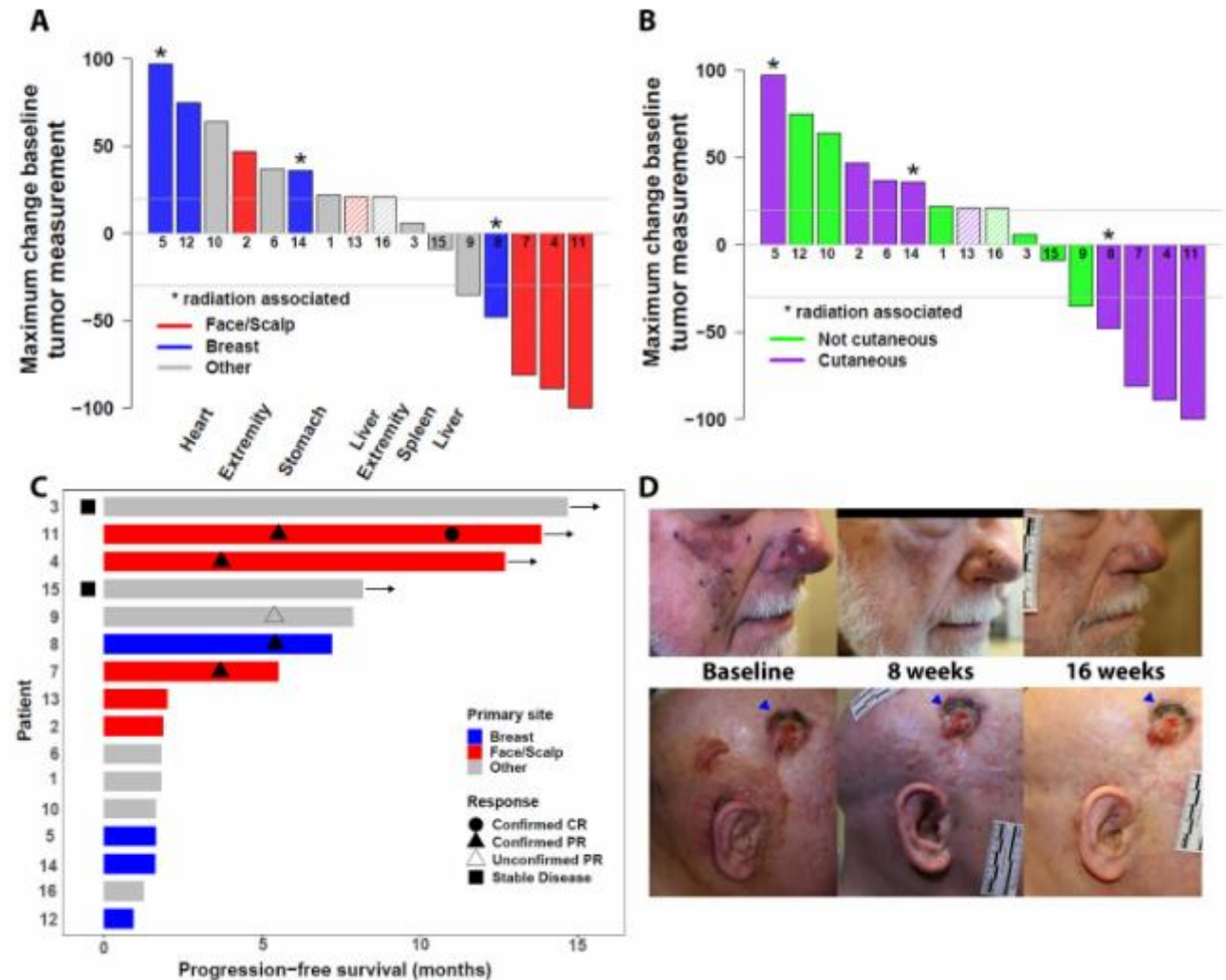
Visit the Cancer Moonshot Seminar Series web page on [cancer.gov](https://www.cancer.gov) to

- Register
- View previous seminars
- Learn about upcoming seminars

DART: Dual Anti-CTLA-4 & Anti-PD-1 blockade in Rare Tumors

Prospective, open-label, multicenter phase II clinical trial of ipilimumab plus nivolumab for angiosarcoma

- Sub-study N=16
- Tumors in 4 patients partially or completely responded to treatment
- Two patients maintained stable disease on the drug combination >6 months
- Some responses sustained for over one year
- One patient had tumors disappear entirely



Liquid biopsy in NF1 to distinguish between benign and malignant tumors

PLOS MEDICINE

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

Cell-free DNA ultra-low-pass whole genome sequencing to distinguish malignant peripheral nerve sheath tumor (MPNST) from its benign precursor lesion: A cross-sectional study



NIH NATIONAL CANCER INSTITUTE

NCI Press Release

In a common genetic disorder, blood test reveals when benign tumors turn cancerous

Posted: August 31, 2021

Contact: NCI Press Office
240-760-6600

Cancer Survival Outcomes for Adolescents and Young Adults, 1975- 2016 – using SEER and NCHS data



Significant improvement	<ul style="list-style-type: none"> • brain and other nervous system tumors • colon and rectum cancer • lung and bronchus cancer • acute myeloid leukemia • non-Hodgkin lymphoma
Limited or no improvement	<ul style="list-style-type: none"> • female breast cancer • cervical cancer • ovarian cancer • bone and joint sarcomas

**Five-year
relative
survival for
AYAs
(aged 15 to 39)
85%**

Lewis DR, Siembida EJ, Seibel NL, Smith AW, Mariotto AB. Survival outcomes for cancer types with the highest death rates for adolescents and young adults, 1975-2016. *Cancer*. 2021 Jul 26. doi: 10.1002/cncr.33793. Epub ahead of print. PMID: 34308557.

NCI Serology Research

FOUNDATIONAL SEROLOGY

Serological Sciences Network
(SeroNet) – 25 groups

- Several groups are following vaccinated cancer patients to measure their immune response over time.
- Preliminary evidence that new kinds of lab-engineered antibodies may have some potential activity as COVID-19 treatments.
- Conducting social science research engaging people hesitant to be vaccinated

CLINICAL & TRANSLATIONAL SEROLOGY

Sero-protection Studies:

- Mount Sinai, University of Arizona, NIH All of Us, NCI SEER + Health Verity

COVID-19 Seroprevalence Studies Hub
(SeroHub)

Antibody test performance evaluation, with
FDA

- *130 evaluations completed*

Standard reference serum

- *Standard shipped to 31 requestors*

Clinical trials for COVID-19 therapeutics

NCI Serological Sciences Network for COVID-19 (SeroNet)



Recent notable publications

Impact of SARS-CoV-2 variants on the total CD4+ and CD8+ T cell reactivity in infected or vaccinated individuals

Tarke, et al. Cell Reports Medicine, Volume 2, Issue 7, July 20, 2021.

Infection and Vaccine-Induced Neutralizing-Antibody Responses to the SARS-CoV-2 B.1.617 Variants

Edara, et al. NEJM, August 12, 2021.

Longitudinal analysis shows durable and broad immune memory after SARS-CoV-2 infection with persisting antibody responses and memory B and T cells

Cohen et al. Cell Reports Medicine, Volume 2, Issue 7, July 20, 2021.

Covid-19 Breakthrough Infections in Vaccinated Health Care Workers

Bergwerk, et al. NEJM, July 28, 2021.

Cancer Diagnostic Devices (CD2) Interagency Task Force

VIRTUAL SIGNING CEREMONY
FRIDAY, SEPTEMBER 17, 2021
3:00 – 4:00 pm ET



The CD2 Task Force will

- Coordinate scientific and programmatic collaborations
- Discuss areas of regulatory and technical challenges to translation and implementation of cancer screening and diagnostic devices for near patient use
- Efforts will emphasize challenges of rural and medically underserved communities

Cancer as a Global Health Priority

JAMA

The Journal of the American Medical Association

VIEWPOINT

Satish Gopal, MD
National Cancer
Institute, Rockville,
Maryland.

**Norman E. Sharpless,
MD**
National Cancer
Institute, Rockville,
Maryland
Online ahead of print
Aug 6, 2021.

Percentage of NCI
extramural awards that
included international
components

2010 9%

2020 13%

IN 2020

Among 1079 extramural
awards involving non-US
countries

342 (32%)

involved LMICs

**Strategic
priorities for
the Center
for Global
Health
include**

- increasing the portfolio of NCI extramural funding involving LMIC collaborators
- targeting areas for extramural funding based on key scientific gaps in global cancer control
- promoting equity in global cancer research by supporting the independent scientific capacity of LMIC investigators and institutions

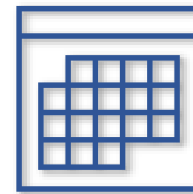
U.S.-U.K. Bilateral Cancer Summit



Doug Mills/The New York Times

“We will bring together researchers, patients, and other stakeholders to share ideas and identify opportunities for collaboration to accelerate advances in lifesaving approaches to cancer, which remains a leading cause of death worldwide.”

Joint statement, June 10, 2021



- Planning event scheduled for November 2021
- Bilateral Summit – Spring 2022

Updates to NCI Training Programs

- Increased **flexibility for surgeon-scientists under the K08** career development program
- Changes to stimulate **greater inclusion and innovation within the T32** grant program for institutional research training
- Details of a new **Early-Stage Surgeon-Scientist Program**, to encourage surgeon-scientists to pursue careers in cancer science.



NCI Bottom Line: A Blog about Grants and More



NCI Updates Training Programs to Support Cancer Researchers of the Future

August 3, 2021, by Dr. Oliver Bogler

Division of Cancer Control and Population Sciences Leadership



Robert T. Croyle, Ph.D.



Katrina Goddard, Ph.D.

Discussion