

NCI Director's Report

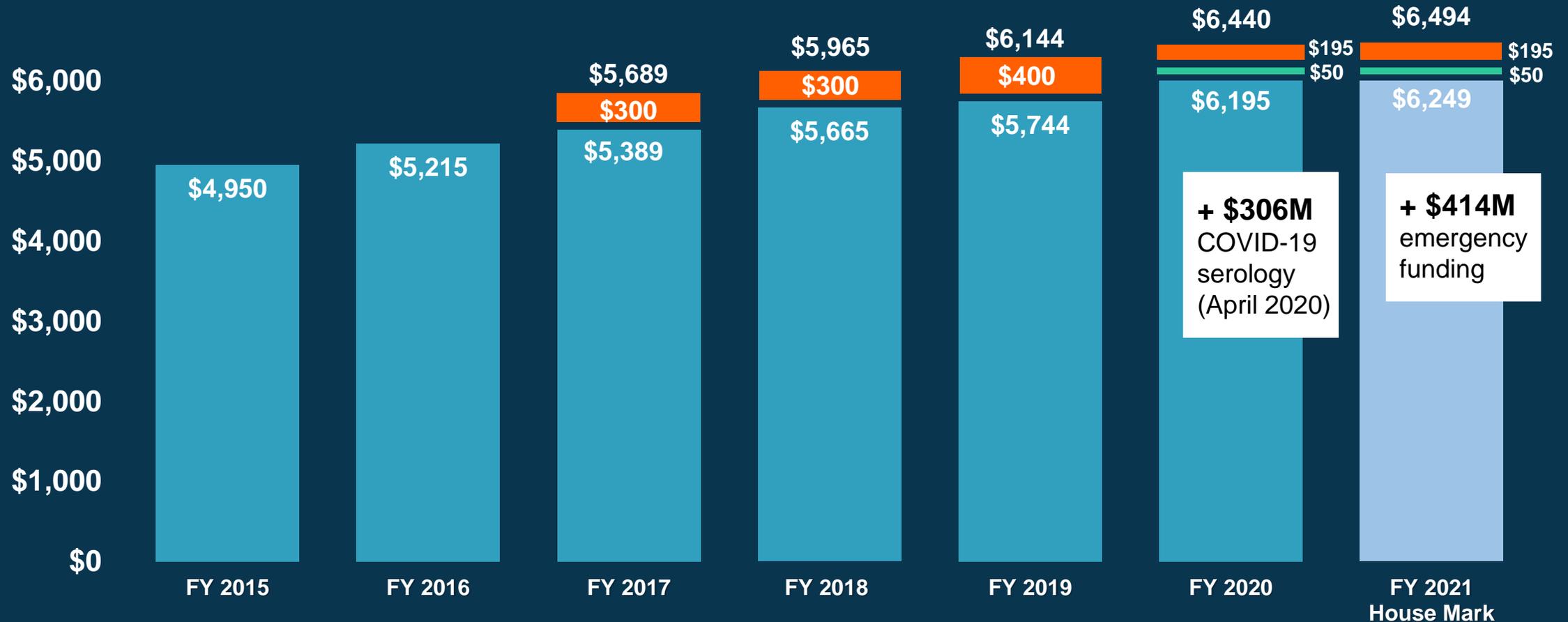
Norman E. Sharpless, M.D.
13th Virtual NCAB Meeting

September 2, 2020

@NCIDirector
@TheNCI

NCI Appropriations FY 2015 – 2020 (in millions)

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



COVID-19 and cancer



Norman E. Sharpless is director of the U.S. National Cancer Institute, Bethesda, MD, USA. norman.sharpless@nih.gov

With the spread of coronavirus disease 2019 (COVID-19), countries and states have instituted lockdowns. These decisions have been difficult and are sometimes described as benefiting the public health at the expense of the economy. Fear of contracting the coronavirus in health care settings has dissuaded people from screening, diagnosis, and treatment for non-COVID-19 diseases. The consequences for cancer outcomes, for example, could be substantial. What can be done to minimize this effect?

Cancer is a complex set of diseases whose prognosis are influenced by the timing of diagnosis and intervention. In general, the earlier one receives cancer treatment, the better the results. There already has been a steep drop in cancer diagnoses in the United States since the start of the pandemic, but there is no reason to believe the actual incidence of cancer has dropped. Cancers being missed now will still come to light eventually, but at a later stage ("upstaging") and with worse prognoses. At many hospitals, so-called "elective" cancer treatments and surgeries have been deprioritized to preserve clinical capacity for COVID-19 patients. For example, some patients are receiving less intense chemotherapy and/or radiotherapy, and in other cases, patients' operations to remove a newly detected tumor are being delayed. There can be no doubt that the COVID-19 pandemic is causing delayed diagnosis and suboptimal care for people with cancer.

What will be the likely impact of the pandemic on cancer mortality in the United States? Modeling the effect of COVID-19 on cancer screening and treatment for breast and colorectal cancer (which together account for about one-sixth of all cancer deaths) over the next decade suggests almost 10,000 excess deaths from breast and colorectal cancer deaths; that is, a ~1% increase in deaths from these tumor types during a period when we would expect to see almost 1,000,000 deaths from these two diseases types.* The number of excess deaths per year would peak in the next year or two. This analysis is conservative, as it does not consider other cancer types, it does not account for the additional nonlethal morbidity from upstaging, and it

assumes a moderate disruption in care that completely resolves after 6 months. It also does not account for regional variations in the response to the pandemic, and these effects may be less severe in parts of the country with shorter or less severe lockdowns.

Beyond clinical care, the COVID-19 pandemic has caused an unprecedented disruption throughout the cancer research community, shuttering many labs and slowing down cancer clinical trial operations. Many scientists and clinicians are pivoting their cancer research activities to study the impact of SARS-CoV-2 on cancer. The scientific community must ensure that this pause is only temporary, because trials are the only way to make progress in developing new therapies for cancer. Given the

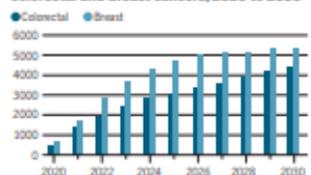
long timeline between basic cancer research and changes to cancer care, the effects of pausing research today may lead to slowdowns in cancer progress for many years to come.

Collective action by the clinical and research communities and by governmental agencies can mitigate this potentially substantial impact. The U.S. National Cancer Institute (NCI), for example, has started to address this challenge (see www.cancer.gov). The NCI has worked with the U.S. Food and Drug Administration to increase flexibility and support for clinical trials during the pandemic. For example, allowances have been made to accept "remote" informed consent, and other protocol deviations. In addition, the NCI has announced several new clinical trials and funding opportunities aimed at addressing the relationship between COVID-19 and cancer. Of particular note is the NCI COVID-19 in Cancer Patients Study, a prospective longitudinal study that will collect blood samples, imaging, and other data to understand how COVID-19 affects cancer patients.

Clearly, postponing procedures and deferring care as a result of the pandemic was prudent at one time, but the spread, duration, and future peaks of COVID-19 remain unclear. However, ignoring life-threatening non-COVID-19 conditions such as cancer for too long may turn one public health crisis into many others. Let's avoid that outcome.

—Norman E. Sharpless

Modeled cumulative excess deaths from colorectal and breast cancers, 2020 to 2030*



*See supplementary materials (science.sciencemag.org/content/368/6407/1290/suppl/DC1).

10.1126/science.abd3377

Downloaded from <https://science.sciencemag.org/> on June 22, 2020

The Washington Post

By Laurie McGinley

June 18, 2020 at 7:30 p.m. EDT

Nation's cancer chief warns delays in cancer care are likely to result in thousands of extra deaths in coming years

STAT

Ignoring cancer care now may trade one public health crisis — Covid-19 — for another, NCI chief warns

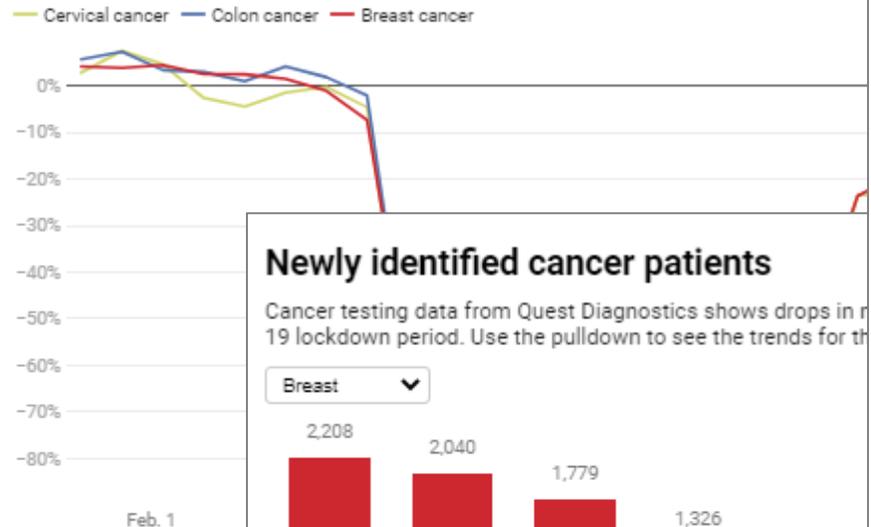
By ELIZABETH COONEY @cooney_liz / JUNE 19, 2020

COVID-19 & Cancer

How the COVID-19 Pandemic Has Changed Cancer Care, In 4 Charts

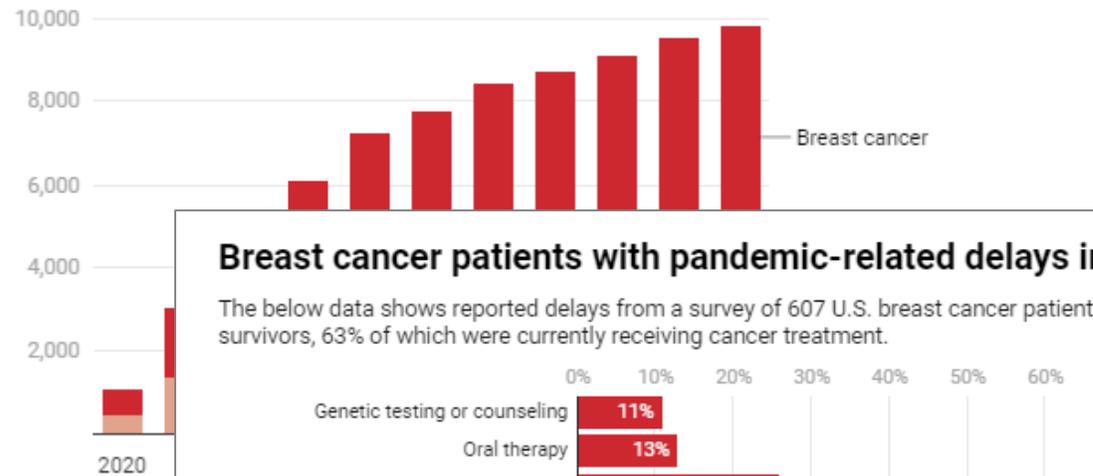
Percentage change in cancer screenings during COVID-19

The lines show how the volume of cancer screenings this year compares to the weekly average in the three years prior to the pandemic.



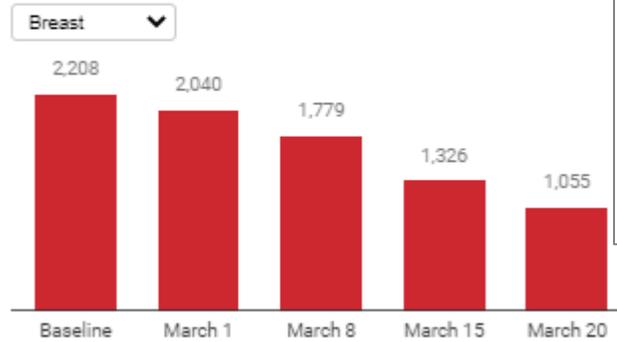
Cumulative excess deaths due to COVID-19

A moderate disruption in care for six months due to the pandemic may add nearly 10,000 deaths from two cancer types this decade.



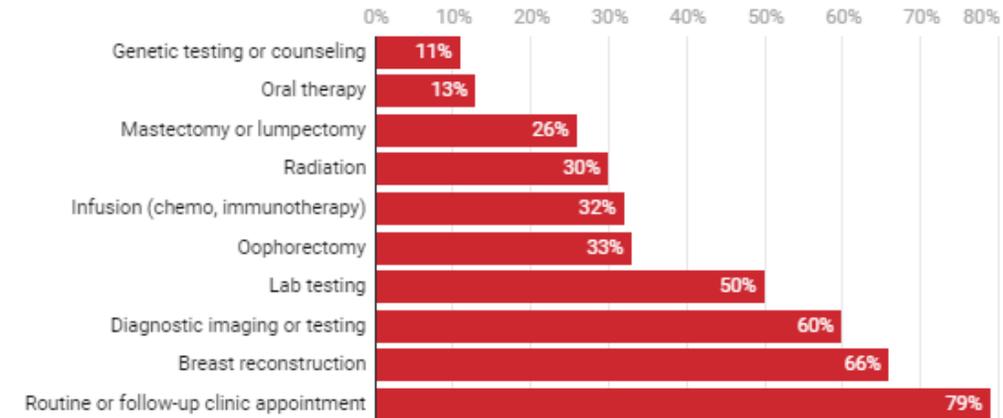
Newly identified cancer patients

Cancer testing data from Quest Diagnostics shows drops in new cancer diagnoses during the 2020 lockdown period. Use the pulldown to see the trends for the top cancer types.



Breast cancer patients with pandemic-related delays in care

The below data shows reported delays from a survey of 607 U.S. breast cancer patients and survivors, 63% of which were currently receiving cancer treatment.



Survey was conducted from April 2 to April 27. In addition to the above categories, 73% chose "Other."

Chart: Emily Barone for TIME • Source: Springer • Get the data • Created with Datawrapper

NCI COVID-19 in Cancer Patients Study (NCCAPS)



Home > News & Events > Cancer Currents Blog

How Does COVID-19 Affect People with Cancer? NCCAPS Will Help Find Out

Subscribe

May 21, 2020, by James H. Doroshow, M.D.

With the sudden explosion of the COVID-19 pandemic, we are all living with a great deal of fear, uncertainty, and anxiety. As an oncologist and cancer researcher, I know that those feelings are heightened for many people with cancer.

People with cancer are already facing the shock of a cancer diagnosis, the tribulations that accompany treatment, or the stress of survivorship. On top of that, we're learning that people with cancer may be at higher risk of severe illness from COVID-19 because their cancer, or its treatment, has left them more vulnerable to complications.



NCI has launched a study called NCCAPS that will help scientists answer questions about COVID-19's impact on cancer patients and cancer's impact on the course of COVID-19.

Credit: iStock

742

TRIAL SITES
ACTIVATED
IN

49

STATES AND
PUERTO RICO

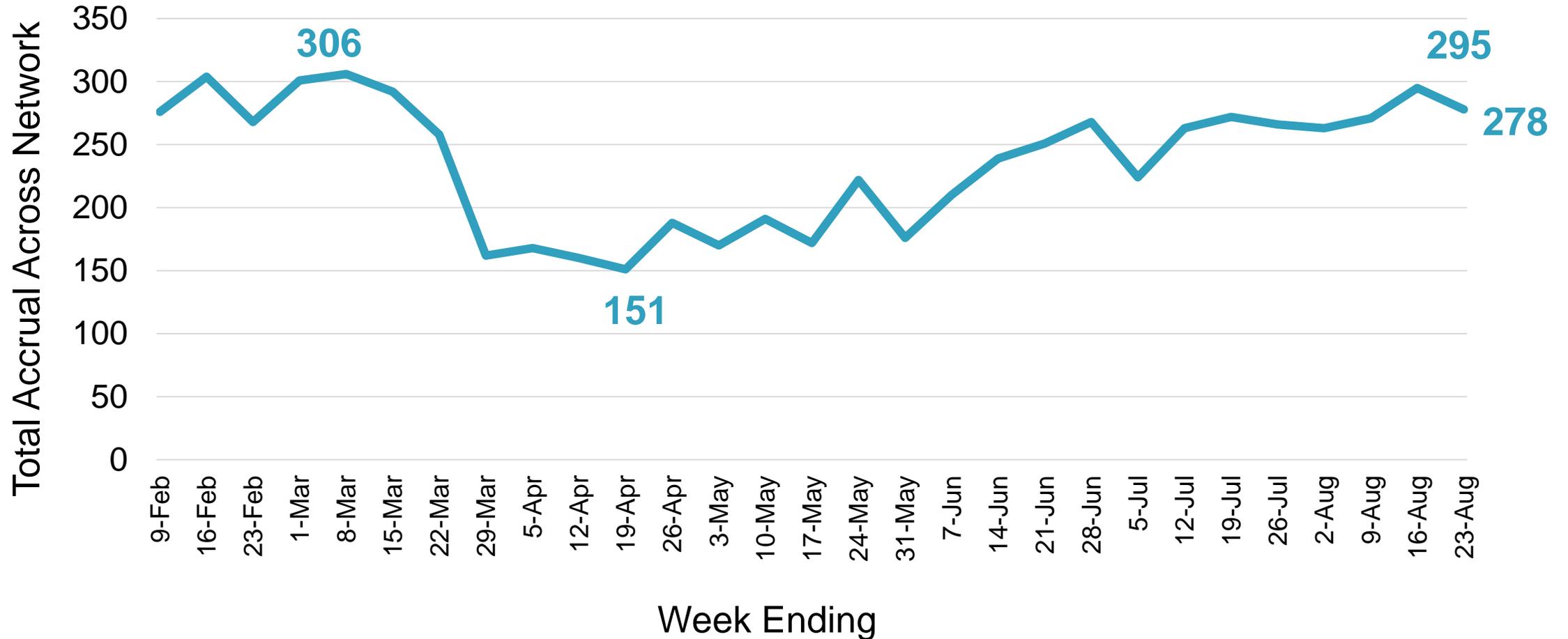
136

PATIENTS
SCREENED

96

ENROLLED

NCTN Trial Accrual: 2/3/20 to 8/23/20



COVID-19, Cancer, & Telehealth

Telemedicine and e-Health, Ahead of Print |

 Free Access

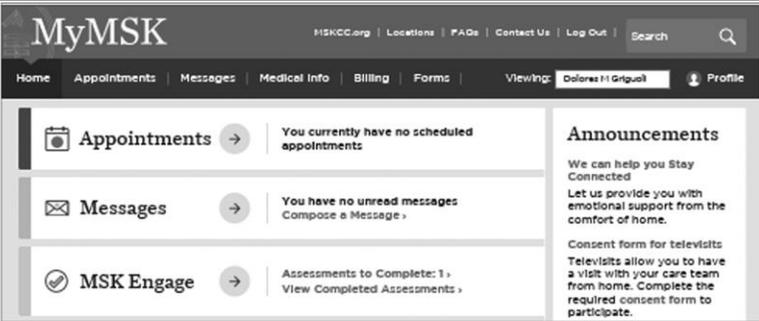
Rapid Scaling Up of Telehealth Treatment for Tobacco-Dependent Cancer Patients During the COVID-19 Outbreak in New York City

Chris Kotsen , Deepika Dilip, Lisa Carter-Harris, Maureen O'Brien, Charles W. Whitlock, Suhana de Leon-Sanchez, and Jamie S. Ostroff

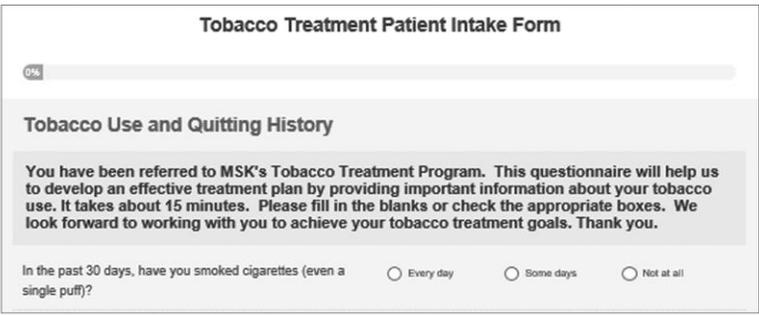
Published Online: 9 Jul 2020 | <https://doi.org/10.1089/tmj.2020.0194>

The coronavirus pandemic's impact on patient motivation for tobacco dependence treatment may be conceptualized as a catalyzing “teachable moment.”

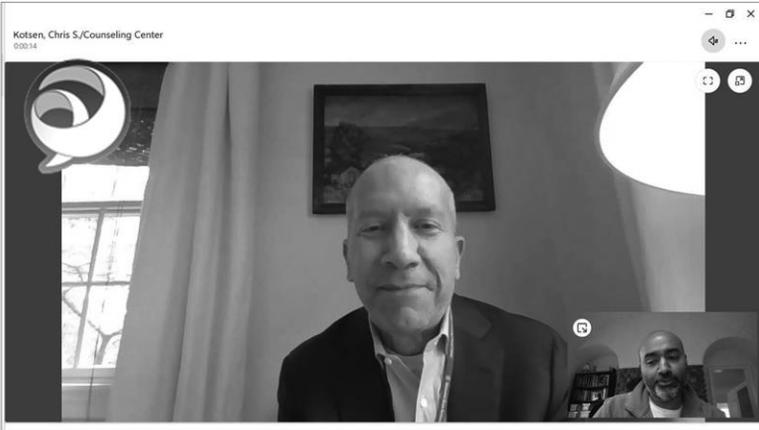
A



B



C



Cancer Grand Challenges



NCI and Cancer Research UK plan to announce the list of new challenges in October 2020.

Expressions of interest from research teams for the new challenges are expected to be accepted from October 2020 through April 2021.



NCI Equity Council

WORKING GROUP 1:

Enhancing Research to Address Cancer Health Disparities

WORKING GROUP 2:

Ensuring Diversity of Thought and Background in the Cancer Research Workforce

WORKING GROUP 3:

Promoting an Inclusive and Equitable Community at NCI

Lung cancer mortality

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

The Effect of Advances in Lung-Cancer Treatment on Population Mortality

Nadia Howlader, Ph.D., Gonçalo Forjaz, D.V.M., Meghan J. Mooradian, M.D.,
Rafael Meza, Ph.D., Chung Yin Kong, Ph.D., Kathleen A. Cronin, Ph.D.,
Angela B. Mariotto, Ph.D., Douglas R. Lowy, M.D., and Eric J. Feuer, Ph.D.

AUGUST 13, 2020

— AMONG U.S. MEN —

DEATHS FROM THE
MOST COMMON TYPE OF
LUNG CANCER

FELL

↓ 3.2%

EACH YEAR FROM 2006 TO 2013

THEN FELL

↓ 6.3%

EACH YEAR FROM 2013 TO 2016

Lung cancer mortality

HEALTH

STAT

Deaths from the most common lung cancer are falling fast, hinting at the impact of improved treatment

By ELIZABETH COONEY @cooney_liz / AUGUST 12, 2020

FIRST OPINION

STAT

Lung cancer deaths are declining faster than new cases. Advances in treatment are making the difference

By NORMAN E. SHARPLESS / AUGUST 13, 2020

NCI Cancer Research Data Commons

datacommons.cancer.gov



NCI Cancer Research Data Commons:
Harmonizing Research & Data Science for Better Clinical Outcomes

#NCICommons



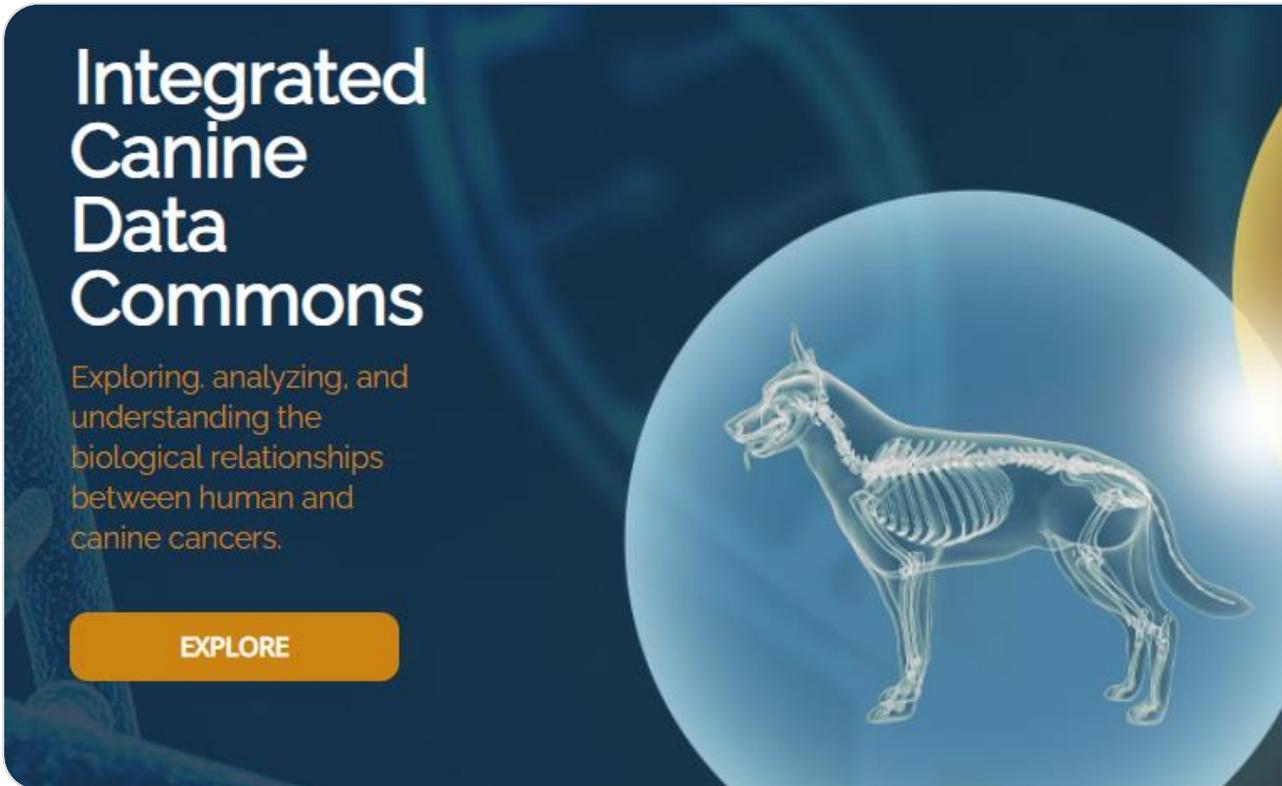
1.1K views

In cancer research, data pieced together in a specific way can lead to new discoveries

0:27 / 2:19

CC

Integrated Canine Data Commons

A banner for the Integrated Canine Data Commons. It features a dark blue background with a glowing blue sphere in the center containing a white wireframe dog skeleton. To the right, a human skeleton is partially visible against a yellow circular backdrop. The text 'Integrated Canine Data Commons' is written in white on the left, with a subtitle 'Exploring, analyzing, and understanding the biological relationships between human and canine cancers.' below it. An orange 'EXPLORE' button is at the bottom left.

Integrated Canine Data Commons

Exploring, analyzing, and understanding the biological relationships between human and canine cancers.

EXPLORE

A photograph of a young woman with dark hair in a bun, wearing a white striped shirt and blue jeans, sitting on a yellow floor and hugging a small brown dog.

Best friends share everything, even data.

Learn more about how our pets' data can help both dog and human cancer patients alike.

#NCICanineData

caninecommons.cancer.gov

A photograph of a female doctor in a white lab coat with a stethoscope around her neck, wearing glasses and having her hair in a ponytail. She is looking towards a male patient who is also wearing glasses and a light-colored polo shirt with a striped pattern. They appear to be in a clinical setting, possibly a hospital or clinic. A large, semi-transparent blue rectangle is overlaid on the center of the image, containing the title text.

ANNUAL PLAN & BUDGET PROPOSAL



MOLECULAR DIAGNOSTICS FOR CANCER TREATMENT



OBESITY & CANCER



CANCER DRUG RESISTANCE



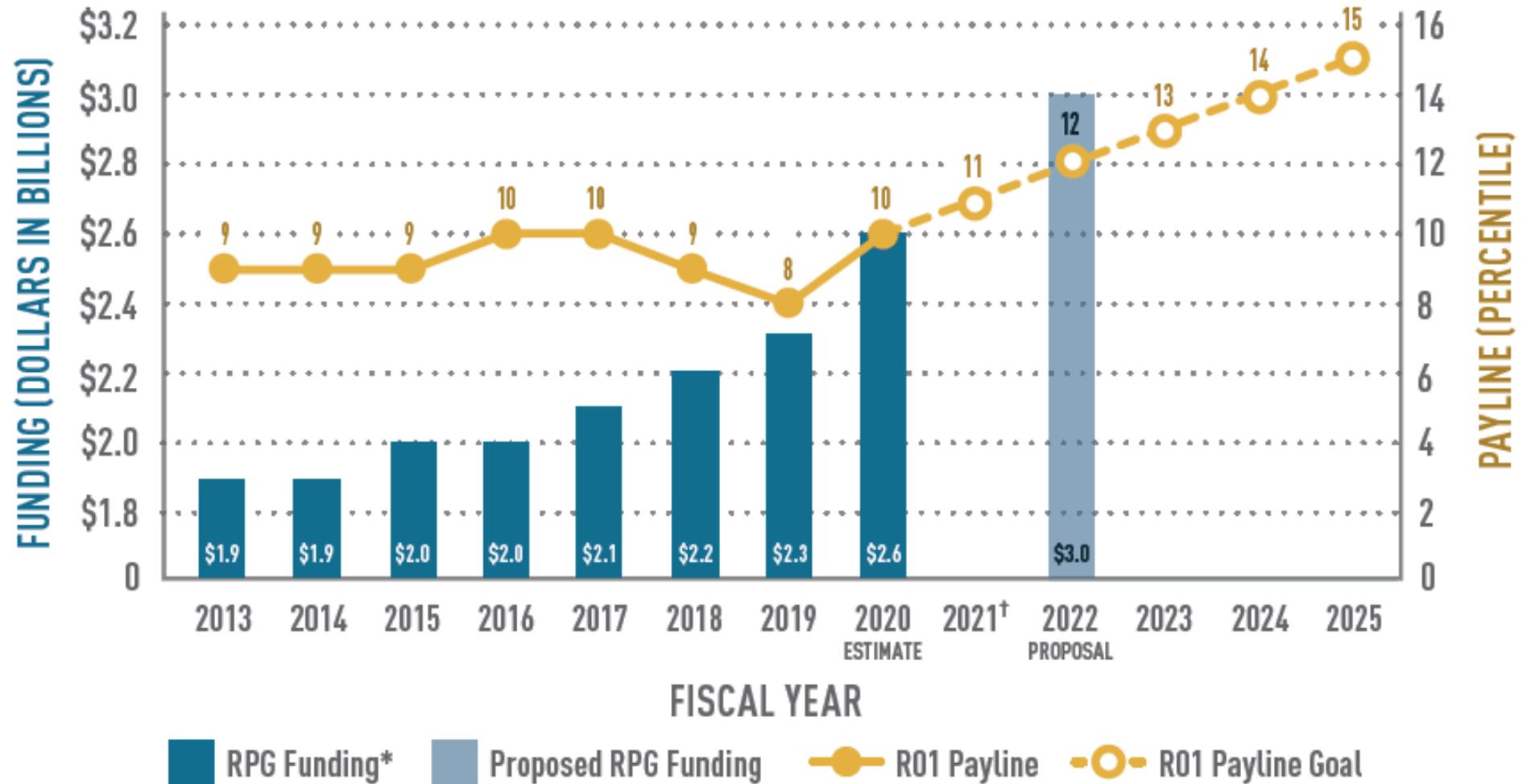
CANCER SURVIVORSHIP

PROFESSIONAL JUDGMENT BUDGET PROPOSAL FOR FISCAL YEAR 2022

Dollars in millions

FISCAL YEAR 2020 NCI BASE APPROPRIATION	\$6,245	
TOTAL BUDGET INCREASE <i>Proposed Allocation</i>	\$1,170⁺	<ul style="list-style-type: none"> \$310 Inflation Adjustment* \$147 Cancer Biology Research \$237 Cancer Prevention Research \$137 Cancer Detection and Diagnosis Research \$218 Cancer Treatment Research \$76 Public Health and Cancer Control Research \$45 Training & Infrastructure
FY 2022 BUDGET RECOMMENDATION	\$7,415	
FY 2022 CANCER MOONSHOT SM FUNDING	\$194	
FY 2022 TOTAL	\$7,609	

NCI Research Project Grants (RPG) Funding and R01 Paylines



* RPG funding levels exclude small business grant set-asides.

† FY 2021 appropriations not yet finalized.

Discussion