AACR Cancer Progress Report Details Exciting Advances in Cancer Research and Treatment

Report includes call to action outlining steps Congress must take to maintain momentum.

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[On September 13], the American Association for Cancer Research (AACR) released the 13th edition of its annual Cancer Progress Report, which chronicles how basic, translational, and clinical cancer research and cancer-related population sciences—primarily supported by federal investments in the National Institutes of Health (NIH) and the National Cancer Institute (NCI)—remain vitally important to improving health and saving lives.

In addition to providing the latest statistics on cancer incidence, mortality, and survivorship, the AACR Cancer Progress Report 2023 offers detailed updates and important context regarding the latest research in cancer etiology, early detection, diagnosis, treatment, prevention, and survivorship. Throughout the report, the personal stories of patients who have benefited from innovative, recently approved anticancer therapeutics highlight the real-world impact of cancer research.

This comprehensive report also features a spotlight on cancer immunotherapy and addresses persistent challenges in cancer research, including cancer disparities, slow progress against certain types of cancer, and the physical, psychosocial, and financial hardships faced by cancer patients, survivors, and their caregivers. A closing call to action outlines steps Congress and other stakeholders must take to ensure that the U.S. maintains its momentum against cancer for the benefit of all patients.

“The advances in cancer research, particularly in the last two decades, have been breathtaking,” said AACR President Philip Greenberg, MD, FAACR, faculty member at Fred Hutchinson Cancer Center. “We are in an era of unparalleled opportunity to make even more breakthroughs for patients. For the cancer research community to achieve these breakthroughs, however, our representatives in Congress must continue to prioritize funding for biomedical research, from basic research to clinical trials. Through the AACR Cancer Progress Report 2023, we are sharing with the public and policy makers the progress that has been made, how that progress has been delivered to patients, how it’s changed people’s lives, and the unparalleled opportunities that now exist from scientific and technologic advances, so they understand how crucial it is that we maintain this

momentum through continued support of NIH and NCI.”

Promising Trends and Advances in Cancer Care
The medical research community—including researchers in academia and industry, physician-scientists, patient advocates, regulators, and many other stakeholders—has maintained impressive momentum against cancer in recent years.

AACR Cancer Progress Report 2023

As outlined in the AACR Cancer Progress Report 2023:

- From August 1, 2022, to July 31, 2023, the U.S. Food and Drug Administration (FDA) approved 14 new anticancer therapeutics, including:
  - A new gene therapy-based immunotherapeutic for certain patients with bladder cancer
  - A first-in-class antibody drug conjugate for patients with ovarian cancer
  - Four new T-cell engaging bispecific antibodies for a range of hematologic malignancies

- During this same time frame, the FDA approved two new imaging agents and expanded the use of 12 previously approved anticancer therapeutics to treat additional cancer types, including:
  - The first approval of an immune checkpoint inhibitor for pediatric and adult patients with a rare form of sarcoma

- Due in large part to advances in prevention, early detection, and treatment, the age-adjusted

overall cancer death rate in the U.S. fell by 33% between 1991 and 2020—an estimated 3.8 million cancer deaths averted.

AACR Cancer Progress Report 2023

- This reduction is driven by declines in mortality from various cancer types, including breast, colorectal, lung, and prostate cancer, as well as melanoma. For example:
  - Breast cancer mortality declined by 43% between 1989 and 2020, leading to an estimated 460,000 fewer breast cancer deaths.
  - The decrease in lung cancer mortality has accelerated from 0.9% a year between 1995 and 2005 to nearly 5% a year between 2014 and 2020. This rapid decline is the result of a steep reduction in the U.S. smoking rate as well as the development of numerous highly effective molecularly targeted therapeutics and immunotherapeutics.

- More and better treatment options have led to notable progress against many pediatric cancers as well. Among children (14 and younger) and adolescents (15-19), overall cancer death rates declined by 70% and 64%, respectively, between 1970 and 2020.

The Immunotherapy Revolution

Immunotherapy has revolutionized cancer care. Breakthroughs in this field have contributed to much of the progress noted above, such as declines in the death rates for previously intractable cancers like advanced lung cancer and melanoma.

AACR Cancer Progress Report 2023

The AACR Cancer Progress Report 2023 contains a spotlight on the history of cancer immunotherapy, the current state of this treatment modality, and the immense promise of the next generation of immunotherapeutics. Highlights include:

- Since 2011, the FDA has approved 11 immune checkpoint inhibitors, which release “brakes” on the surface of certain immune cells—called T cells—so that the T cells are able to destroy cancer cells. Many of these drugs are approved for more than one type of cancer, making

immune checkpoint inhibitors a treatment option for 20 cancer types and any tumor with certain specific molecular characteristics.

- Since 2017, the FDA has approved six CAR T-cell therapies to treat a range of hematologic malignancies. CAR T-cell therapy is a type of adoptive cell therapy, which is designed to dramatically increase the number of cancer-killing immune cells a patient has.

- The field is expanding in exciting ways, with researchers combining the power of other cells in the immune system with recent advances in gene editing to develop more personalized and effective versions of adoptive cell therapy for treatment of solid tumors; developing mRNA-based vaccines and therapeutics to treat cancer; and targeting the gut microbiome to increase the efficacy of cancer immunotherapy, among many other innovative approaches.

Despite Progress, Challenges Persist

Despite the extraordinary scientific progress against cancer in recent years, this complex disease remains a significant threat to human health around the world. In the U.S., it is estimated that nearly 2 million new cases of cancer will be diagnosed and more than 609,000 people will die from the disease in 2023.

Indeed, cancer research and patient care face numerous challenges, as outlined in the AACR Cancer Progress Report 2023:

- Cancer disparities are a pervasive public health problem, with racial and ethnic minorities and other medically underserved U.S. populations shouldering a disproportionally higher burden of cancer. While advances have been made in identifying, understanding, and addressing some of these disparities, more research and policy solutions are urgently needed to ensure equitable progress against cancer.

- There has been uneven progress against different cancer types. Few treatment options exist for patients diagnosed with pancreatic cancer or glioblastoma, for example, and 5-year relative survival rates for these cancers are extremely low.

- Incidence rates for some cancers are increasing, including for early-onset colorectal cancer, pancreatic cancer, and uterine cancer, in part due to the rising rate of obesity.

- Financial toxicity is widespread, exacerbated by the rising cost of cancer care. In 2019, U.S.

cancer patients paid an estimated $16.2 billion in out-of-pocket cancer care costs and lost an additional $5 billion in “time costs.”

Federal Funding Essential for Further Progress

To confront these and other challenges, the AACR Cancer Progress Report 2023 calls on Congress to support robust, sustained, and predictable annual funding growth for NIH and NCI by providing increases of at least $3.465 billion and $2.6 billion, respectively, in their fiscal year 2024 base budgets. This funding is crucial to continued progress for patients. From 2010 to 2019, NIH funding contributed to the development of 354 out of 356 new drugs, including many cancer drugs, approved by the FDA.

The AACR also urges Congress to:

- Provide $1.7 billion in dedicated funding for Cancer Moonshot activities in FY 2024 across NCI, FDA, and Centers for Disease Control and Prevention (CDC) with the assurance that Moonshot funding will supplement rather than supplant NIH funding in FY 2024.
- Appropriate at least $472.4 million in FY 2024 appropriations for the CDC Division of Cancer Prevention to support comprehensive cancer control, central cancer registries, and screening and awareness programs for specific cancers.
- Allocate $50 million in funding for the Oncology Center of Excellence at FDA in FY 2024 to allow regulators with the capable staff and necessary tools to conduct expedited review of cancer-related medical products.

“We are proud to release the 13th annual AACR Cancer Progress Report,” said AACR CEO Margaret Foti, PhD, MD. “It is our hope that this comprehensive resource will help to increase knowledge about the myriad diseases we call cancer as well as the innovative research that is improving and extending lives. The findings in this report, along with the personal stories of the featured patients, underscore the enormous impact that robust, sustained, and predictable funding for cancer research has had on Americans’ health, and why that support must continue.”

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