

President's Cancer Panel Initial Assessment of the National Cancer Plan

FEBRUARY 2024

A Report to the President of the United States

The President's Cancer Panel

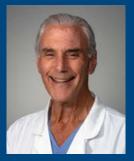
CHAIRPERSON



Elizabeth M. Jaffee, MD, FAACR, FACP, FAAAS, FAIO

Dana and Albert "Cubby" Broccoli Professor of Oncology Deputy Director, Sidney Kimmel Cancer Center Co-Director, Gastrointestinal Cancers Program Johns Hopkins University Baltimore, MD

MEMBERS



Mitchel S. Berger, MD, FACS, FAANS Professor, Department of Neurological Surgery Director, Brain Tumor Center University of California, San Francisco San Francisco, CA



Carol Brown, MD, FACOG, FACS Chief Health Equity Officer and Senior Vice President Memorial Sloan Kettering Cancer Center New York, NY

This report is submitted to the President of the United States in fulfillment of the obligations of the President's Cancer Panel to appraise the National Cancer Program as established in accordance with the National Cancer Act of 1971 (P.L. 92-218), the Health Research Extension Act of 1987 (P.L. 99-158), the National Institutes of Health Revitalization Act of 1993 (P.L. 103-43), and Title V, Part A, Public Health Service Act (42 U.S.C. 281 et seq.).

Published February 2024

For further information on the President's Cancer Panel, please contact:

Maureen R. Johnson, PhD

Executive Secretary President's Cancer Panel 31 Center Drive Building 31, Room 11A48 Bethesda, MD 20892 PresCancerPanel@mail.nih.gov https://prescancerpanel.cancer.gov



President's Cancer Panel Initial Assessment of the National Cancer Plan: A Report to the President of the United States

Suggested citation:

President's Cancer Panel Initial Assessment of the National Cancer Plan: A Report to the President of the United States. Bethesda (MD); 2024.

Letter to the President

The President The White House Washington, DC 20500

Dear President Biden,

We extend our deepest appreciation for your and Dr. Biden's unwavering commitment to usher in a new era in cancer care and research. Your compassion and support are an inspiration to cancer patients and their loved ones. The battle against this disease is not only a professional mission for us but also a deeply personal one, akin to the experiences of countless Americans, including your own family. Your leadership through the Cancer Moonshot and now the National Cancer Plan has led to change in our country's outlook on cancer and galvanized the cancer community to come together like never before. However, it is clear that reaching the ambitious but achievable goal of ending cancer as we know it will require an even more concerted and collaborative push from both government and private sectors.

We unequivocally endorse the National Cancer Plan; it stands as a beacon, calling on every person and every sector of our society to join in transforming what it means to have a cancer diagnosis. At the request of Dr. Monica Bertagnolli, we have conducted an initial assessment of the activities underway to achieve the Plan's goals. We offer you our recommendations for changes that can make a difference right now.

During the COVID-19 pandemic, providers were able to better support cancer patients across the country through telehealth. This widespread use of telehealth was a turning point in how we care for patients, and that must continue. To extend the reach and impact of the cancer workforce, Congress must permanently change its policy to allow Medicare and Medicaid to cover all telehealth services and encourage all health plan providers to do the same.

To accelerate progress in cancer research and in training a diverse and robust workforce, it is imperative that both Congress and private sector organizations—biopharmaceutical companies in particular—intensify their investments in these areas. Public investments have yielded innumerable advances for cancer patients and society overall, but government agencies cannot bear this burden alone. Private organizations who benefit from these investments must take a more active role in funding the training and supporting the development of the next generation of cancer clinicians and researchers.

Mr. President, you have already done so much in support of the cancer community, but we need your help to do even more. People with cancer and their loved ones are counting on us. We respectfully submit this report for your consideration with recommendations for actionable priorities that will ignite and accelerate progress toward the National Cancer Plan, with the ultimate goal of ensuring that every person in the United States has access to the best possible resources and care for cancer prevention, detection, treatment, and survivorship. We look forward to the opportunity to continue to work with your Administration and stakeholders across the National Cancer Program to ensure the National Cancer Plan is effectively and efficiently implemented.

Sincerely,

Oly beth of ffee

Elizabeth M. Jaffee, MD

Mitchel S. Berger, MD

Carol Brown, MD

Contents

Executive Summary: Priority Areas and Recommendations	. i
Preface	ii
National Cancer Plan	1
Panel Assessment of the National Cancer Plan	2
Assessment Activities and Goals	2
Findings: Priority Areas and Recommendations	2
Increase Investment in Biomedical Research	3
Ensure Access to High-Quality Insurance Coverage for All	4
Build a Sustainable, Robust, and Diverse Workforce	4
Promote Dynamic and Sustainable Community Engagement	6
Prioritize Data Sharing and Integration to Accelerate Research	7
Conclusions	9
References	0
Appendix A: Meeting Participants	3
Appendix B: Table of Activities Related to the National Cancer Plan	4

Executive Summary: Priority Areas and Recommendations

his report includes findings of the President's Cancer Panel's initial assessment of the National Cancer Plan. The Panel endorses the National Cancer Plan as a roadmap for the National Cancer Program and is encouraged by the dedication and remarkable achievements of stakeholders across the cancer community. The Panel offers recommendations in five priority areas to accelerate progress toward the National Cancer Plan goals. These priority areas are united by the ultimate goal of ensuring that every person in the United States has equitable access to the best possible resources and care for cancer risk reduction, detection, treatment, and survivorship.

Increase Investment in Biomedical Research

Increased investment in cancer research is urgently needed to take advantage of unprecedented scientific opportunities. The Panel strongly encourages members of Congress to work together to sufficiently fund biomedical research—and cancer research in particular—to maintain the momentum that is helping turn many cancers into chronic diseases. The private sector must also increase its investment in cancer research, particularly research performed at academic and other publicly funded institutions.

Ensure Access to High-Quality Insurance Coverage for All

Every person in the United States should have health insurance that provides adequate coverage for cancer prevention, screening, diagnosis, treatment, and survivorship care. In order to reduce the burden of cancer and ensure equitable access for all, the Panel urges states that have not yet expanded their Medicaid programs to do so.

Build a Sustainable, Robust, and Diverse Workforce

i

Collaborative public and private investments are needed to recruit, train, support, and retain a robust and diverse workforce for both cancer research and cancer care. To extend the reach of the workforce and optimize its impact, Congress must enact laws to permanently allow Medicare coverage of a full complement of telehealth services, and states should continue to expand access to telehealth. Commercial insurers also should provide coverage for telehealth. All states should participate in the Interstate Medical Licensure Compact to make it easier for their providers to offer care across state lines. These changes will increase access to care and help address inequities in cancer care.

Promote Dynamic and Sustainable Community Engagement

Engagement of patients and communities is essential to achieving the goal of more equitable cancer care and cancer control. Healthcare organizations, research institutions, providers, and researchers should invest in and promote community engagement. Policies and sustainable funding are needed to incentivize and support this engagement.

Prioritize Data Sharing and Integration to Accelerate Research

Federal agencies, healthcare systems, research organizations, professional societies, and others should accelerate their efforts to improve and incentivize interoperability, data standardization, and data sharing platform development and use. All stakeholders should optimize the usability and availability of their data to help drive progress in cancer research. Clinical trial sponsors—including biopharmaceutical companies—should make trial results available to the public as soon as possible after the primary endpoints of the trial are completed.

The Panel applauds the creation of the National Cancer Plan and urges stakeholders from all sectors of the National Cancer Program–government, philanthropic, academic, industry, and advocacy– to work tirelessly, innovatively, and synergistically to achieve the goals of the Plan. Everyone–every person and organization large and small–has a role to play in the shared mission to end cancer as we know it.

Preface

he President's Cancer Panel (the Panel) was established in 1971 by the National Cancer Act (P.L. 92-218) and is charged with monitoring the progress of the National Cancer Program and reporting to the President of the United States on barriers to and recommendations for reducing the burden of cancer.

The Panel defines the National Cancer Program broadly to encompass all those affected by cancer and those who can address the burden of cancer to create a better future, including cancer patients and survivors, people at risk of cancer, researchers, healthcare providers, advocates, family members, and caregivers of those diagnosed with cancer. It also connects local, state, and federal governments; the pharmaceutical and biotechnology industries; healthcare systems; academic institutions; and nonprofit organizations. For more than 50 years, the Panel has investigated many topics of importance to the National Cancer Program, such as cancer screening, HPV vaccination, environmental factors in cancer, and cancer survivorship. A key theme across many of the Panel's series has been the importance of acknowledging and overcoming the disparities in cancer risk, diagnosis, and outcomes among different populations in the United States. The Panel continued its focus on inequities as it reviewed national activities and progress as part of the current assessment of the National Cancer Plan. The Panel is gratified that "Eliminate inequities" is one of the eight goals of the National Cancer Plan and urges stakeholders from across the National Cancer Program to view their work through the lens of equity to ensure that progress does not widen the gaps in outcomes that are far too common today.

The Panel defines the National Cancer Program broadly to encompass all those affected by cancer and those who can address the burden of cancer to create a better future.

National Cancer Plan

he Cancer Moonshot-championed by then-Vice President Joe Biden and launched in 2016-brought new urgency to the fight against cancer. In 2022, the Biden-Harris Administration announced new efforts to reignite the Cancer Moonshot in pursuit of two new goals: to reduce cancer mortality by at least 50 percent by 2047 and to improve the experience of people and their families living with and surviving cancer.

In April 2023, with leadership from then-National Cancer Institute (NCI) Director Monica Bertagnolli, the U.S. Department of Health and Human Services (HHS) released the National Cancer Plan, a comprehensive roadmap to guide the nation's efforts against cancer.¹ The Plan establishes eight goals (see National Cancer Plan Goals) and describes a set of strategies associated with each goal. It also issues a call to action that everyone in our society—every organization and individual—do their part to end suffering from cancer.

While recognizing the critical importance of cancer research, the National Cancer Plan also highlights the need for action in public health, healthcare delivery, financing, and public policy to ensure that the benefits of our country's investments to overcome cancer reach everyone. The Plan also provides a framework for collaboration to bring together talents and resources from across the National Cancer Program to drive progress.

National Cancer Plan Goals



1

Panel Assessment of the National Cancer Plan

t the request of then-NCI Director Monica Bertagnolli, the President's Cancer Panel enthusiastically agreed to monitor implementation of the Plan by gathering information about progress toward the Plan's goals and identify opportunities for improvement and acceleration.

Assessment Activities and Goals

For its initial assessment, the Panel utilized a multipronged approach to gather information on activities relevant to the National Cancer Plan. Twelve organizations representing stakeholders with a breadth of activities and interests across the National Cancer Program were invited to present at a virtual meeting in September 2023 (see *Appendix A: Meeting Participants*).*

Participants were asked to provide information on programs, activities, and achievements relevant to the National Cancer Plan and highlight challenges and opportunities to accelerate progress. The meeting was open to the public via livestream. The Panel also urged all National Cancer Plan stakeholders, large and small, to submit information on their programs, activities, and achievements via email or social media.

While not a comprehensive review, the Panel assessment was an opportunity to hear about representative activities from across the spectrum of the National Cancer Program. The goals of the assessment were to review how ongoing activities are addressing the National Cancer Plan, gain insights into challenges, identify opportunities to accelerate progress, and foster collaborations among stakeholders to achieve common goals.

Findings: Priority Areas and Recommendations

The Panel endorses the National Cancer Plan as a roadmap for advancing the National Cancer Program. The goals of the Plan effectively and comprehensively address critical aspects of the National Cancer Program. Through the assessment activities, Panel members learned about remarkable achievements from across the cancer community and were inspired by the dedication, productivity, and leadership of the stakeholders who provided information. Many organizations are actively working—often together—to make progress toward the goals of the National Cancer Plan. Examples of these activities are included as an appendix to this report (see *Appendix B: Table of Activities Related to the National Cancer Plan*).

The widespread commitment to these goals will improve the lives of people with cancer and those at risk of developing cancer in the coming years. However, these improvements are not guaranteed. The Panel also heard about many challenges and opportunities that must be addressed and pursued to accelerate progress toward the National Cancer Plan goals. In this report, the Panel offers recommendations in five priority areas-Investment in Research, Insurance Coverage, Workforce, Community Engagement, and Data Sharing/ Integration-that encompass key challenges and opportunities for the National Cancer Program. These priority areas align with the National Cancer Plan goals and are united by the ultimate goal of ensuring that every person in the United States has equitable access to the best possible resources and care for cancer risk reduction, detection, treatment, and survivorship.

* A detailed summary and recording of this meeting are available on the President's Cancer Panel website: https://prescancerpanel.cancer.gov/ncp/meetings/2023-09-07.

Increase Investment in Biomedical Research

Research is essential to finding better ways to prevent, detect, and treat cancers and ensure that evidencebased interventions are disseminated and adopted. Unprecedented opportunities in cancer research have been made possible by the innovation of scientists in areas including genetics, immunology, and data science. Sustained investments in research funding are urgently needed to continue to cultivate a strong cancer research enterprise and maintain this momentum in biomedical discoveries that are already turning deadly cancers into chronic diseases.

"'-

Sustained investments in research funding are urgently needed to continue to cultivate a strong cancer research enterprise and maintain this momentum in biomedical discoveries that are already turning deadly cancers into chronic diseases.

Public investment-largely through the National Institutes of Health (NIH), including NCI-forms the cornerstone of biomedical research in the United States and has yielded innumerable advances benefiting society overall and cancer patients in particular. The NCI RAS Initiative exemplifies this contribution. Mutations in the RAS gene family have long been known to drive more than 30 percent of human cancers, many of which were resistant to available therapies. However, commercial efforts to develop anti-RAS therapies were largely abandoned when early attempts failed. NCI created the RAS Initiative in 2013 to explore new approaches to target RAS through an open, national collaborative model. This work yielded a broad body of knowledge and led to the development

of a new drug—approved by the Food and Drug Administration in 2021—for patients with KRASmutated nonsmall cell lung cancer. Other RAS inhibitors are currently progressing in clinical trials.^{2,3}

Unfortunately, the U.S. public investment in cancer research is not keeping pace with the expedited progress. Although the NCI budget has increased over the past 20 years, the institute's buying power fell \$1.1 billion between Fiscal Year (FY) 2003 and FY2023.⁴ The outlook for FY2024 is of great concern to the Panel given the delay in the appropriations process and the chances of a reduced budget due to loss of Cancer Moonshot funding. Faced with reduced resources, NCI will have to make difficult decisions about cutting budgets for ongoing projects and decreasing the payline for new grants. This translates to fewer awards to institutions across the country and less progress made against cancer. Perhaps most worrisome, early- and mid-career investigators will have the hardest time weathering the challenging funding climate, deleteriously impacting the cancer research workforce for years to come.

Cancer touches every community in every part of the country and should be a national priority. The Panel strongly encourages members of Congress to work together to sufficiently fund biomedical research and cancer research in particular. The recent creation of the Advanced Research Projects Agency for Health (ARPA-H) will help drive progress in targeted areas, but it is equally important to continue to support basic, translational, clinical, and population-based research projects through NIH and NCI. These investments will pay scientific, medical, and economic dividends domestically-through creation of research sector jobs in all U.S. states, new drug and device opportunities for biotech and pharmaceutical companies, as well as scientific advances-and will allow the United States to remain a leader in cancer research and discovery on the international stage. Researchers, advocacy organizations, and individuals affected by cancer should make sure elected officials understand the tangible benefits produced by past research and the opportunities to build on this progress.

Federal agencies occupy a central role in supporting biomedical research and training the research workforce (see Build a Sustainable, Robust, and Diverse Workforce), but public funding is not sufficient. The private sector (e.g., biopharmaceutical and technology companies) must also increase its investment in cancer research, particularly research performed at academic and other publicly funded institutions. The public and private sectors play complementary roles in creating a research landscape that fosters innovation and translates biological knowledge to better treatments and tools for patients. One sector cannot succeed without the cooperation and collaboration of the other to reach the shared goal of reducing cancer as we know it.

The public and private sectors play complementary roles in creating a research landscape that fosters innovation and translates biological knowledge to better treatments and tools for patients.

Ensure Access to High-Quality Insurance Coverage for All

Stakeholders from across the National Cancer Program repeatedly emphasized the critical importance of access to care and the fact that lack of health insurance or inadequate coverage undermines timely access to high-quality cancer care and cancer control. Cancer patients who are uninsured or underinsured are more likely to be diagnosed with late-stage disease and have worse survival rates.⁵

While the number of people without health insurance has fallen significantly since passage of the Affordable Care Act (ACA) in 2010, nearly 26 million people in the United States still lack health insurance.⁶ The President's Cancer Panel believes that every person in the United States should have health insurance that provides adequate coverage for care and interventions related to cancer prevention, screening, diagnosis, treatment, and survivorship.

One way to help achieve this goal would be for all U.S. states to expand Medicaid coverage to include adults up to age 65 with incomes up to 138 percent of the federal poverty level. As of December 2023, 40 states and the District of Columbia have taken advantage of incentives established in the ACA and subsequent federal legislation to expand their Medicaid programs.⁷ Numerous studies have documented the benefits of Medicaid expansion, including for cancer screening and care.⁸ For example, Medicaid expansion has been linked to more timely cancer screening and diagnosis, higher likelihood of receiving appropriate cancer treatment, improvements in cancer-related clinical outcomes, and reductions in health disparities.⁹ In order to reduce the burden of cancer and ensure equitable access for all, the Panel urges states that have not yet expanded their Medicaid programs to do so.

Having health insurance is critical, but insurance coverage alone may not be sufficient to ensure timely access to cancer-related care. Recommended treatments should be adequately covered by insurance, and coverage approval processes should not delay delivery of care. Payers should consistently use nationally recognized, continuously updated clinical practice guidelines to inform coverage decisions for cancer care and related tests and services (e.g., biomarkers, imaging).

Build a Sustainable, Robust, and Diverse Workforce

Building a Diverse Pipeline

A robust and diverse workforce is essential for the delivery of high-quality cancer care. The aging U.S. population, imbalances between new and retiring healthcare providers, and providers leaving their fields due to burnout or other factors have fueled concerns about the oncology workforce shortages for many years.^{10,11} The Panel heard from several stakeholders that optimal cancer care and patient engagement are also undermined by a workforce that does not reflect the diversity of people affected by cancer in the United States.

Fostering a diverse healthcare workforce has long been recognized as a strategy for addressing persistent health disparities in the United States.¹² Healthcare teams with members from different backgrounds can foster awareness of social and cultural factors that influence health. healthcare utilization, and interactions with providers. Diverse teams can also help build patient trust, increase patient satisfaction, and, as a result, deliver higher quality clinical care that will yield more equitable patient outcomes. Ideally, all members of the oncology workforce would be able to relate to people of different backgrounds and identities-with respect to race, culture, language, geography, education, religion, politics, socioeconomic status, sexual/gender identity, and other factors-and collectively understand and address the sociocultural issues affecting their patients' health and healthcare.13

Diversity is also important to strengthen research teams and optimize the value of research (see *Increase Investment in Biomedical Research*). Hypothesis development, study design, and interpretation of results all are strengthened with the benefit from multiple perspectives. Furthermore, diverse teams increase the likelihood of diversity among participants in clinical studies,¹⁴ a prerequisite for ensuring equitable progress against cancer. In addition to increasing comfort and trust among potential participants,¹⁵ research team members who reflect the diversity of study populations can help ensure that research questions are aligned with community needs and strengthen consideration of cultural factors.

Collaborative public and private investments are needed to recruit, train, support, and retain a robust and diverse workforce for both cancer research and cancer care. Career opportunities in research and healthcare—and in oncology in particular—should be promoted and supported across different populations and communities, with outreach beginning as early as possible. Efforts should focus not only on physicians and nurses, but also on the many other types of workers needed to deliver high-quality cancer care, including, but not limited to, allied health professionals, pharmacists, patient navigators, community health workers, and social workers.

6

Efforts should focus not only on physicians and nurses, but also on the many other types of workers needed to deliver high-quality cancer care, including, but not limited to, allied health professionals, pharmacists, patient navigators, community health workers, and social workers.

Many professional and advocacy organizations support training with programs that engage students as early as elementary school and through college and early career stages. NIH and NCI also have committed to developing a pool of scientists from diverse backgrounds and funded a number of initiatives to accomplish this.¹⁶⁻¹⁸ However, despite steady government investment in training, growth in the number of individuals benefiting from NCI's programs has not kept pace with the growth of the cancer research field overall, in part due to increasing costs that effectively reduce the buying power of these programs.¹⁹⁻²¹ Public-private sector partnerships in this area will increase returns on investment and ensure that lessons learned and best practices are widely shared and implemented. Biopharmaceutical companies and healthcare systems that benefit from NIH/NCI training programs should play a role in and financially support these efforts.

Extending the Reach of the Oncology Workforce

The uneven distribution of oncology professionals across the country is also a concern. More than twothirds of rural U.S. counties have no oncologists,²² and many other frontier and remote regions also are underserved. Though distances to healthcare services may be shorter in more heavily populated cities and suburbs, many people in these areas also face significant challenges accessing cancer care. Strategies are needed to ensure that oncology care teams can reach all individuals, no matter where they live.

During the COVID-19 pandemic, several policy changes enabled a rapid increase in the use of telehealth for all types of healthcare, including cancer. The Panel heard from multiple stakeholders that maintaining policies that facilitate telehealth services, including across state lines, would help the oncology workforce deliver high-quality care. The Centers for Medicare & Medicaid Services (CMS) extension of Medicare telehealth provisions through the end of 2024 is a step in the right direction.²³ Many state Medicaid programs have also expanded and refined their telehealth policies over the past few years.²⁴ To promote provider outreach and help eliminate inequities in cancer care, Congress must enact laws to permanently allow Medicare coverage of a full complement of telehealth services, and states should continue to expand access to telehealth. Commercial payers should also cover telehealth services. The Biden-Harris Administration efforts to increase high-speed internet availability across the country-including the recent creation of the \$42.45 billion Broadband Equity Access and Deployment program through the Bipartisan Infrastructure Law-will help Americans make use of telehealth.²⁵ Computer and internet access at community sites (e.g., libraries, community centers) may also extend the reach of telehealth. The success of these efforts should be monitored to ensure that lack of internet access does not impede access to healthcare.

To optimize opportunities for telehealth, healthcare providers also must be able to offer services to

patients across state lines. **To facilitate interstate telehealth, all states should participate in the Interstate Medical Licensure Compact (the Compact).** For physicians in participating states, the Compact streamlines the process of obtaining licenses in states other than the one in which they primarily reside and practice. As of January 2024, the Compact includes 37 states, the District of Columbia, and Guam.²⁶ Legislatures and governors in other states and territories should enact legislation allowing physicians in their states to participate in this service.

"

Effective community engagement helps providers understand and better meet the needs of their patients and supports improved health outcomes for disadvantaged populations.

Promote Dynamic and Sustainable Community Engagement

To achieve the goal of more equitable cancer care and cancer control, healthcare systems and research institutions must do a better job engaging the people they serve. Effective community engagement helps providers understand and better meet the needs of their patients and supports improved health outcomes for disadvantaged populations.²⁷ With respect to research, community engagement can facilitate alignment of research questions to community priorities, support study designs that are acceptable to potential participants, increase participation of diverse populations, and improve acceptance of research results by the people they are intended to help.²⁸

Patient engagement in healthcare and research is inextricably linked to trust. As the Panel heard from stakeholders, institutions must be *trustworthy* to build trust. This trust must be actively earned and "

The key is that engagement activities be guided by a genuine desire to understand and be responsive to the values, priorities, and needs of the community.

maintained through relationships based on mutual respect and bidirectional communication. Effective community engagement can take many forms, such as forming a community advisory board to oversee a research program, hiring community health workers to help patients overcome barriers to care, establishing a telehealth program, or partnering with community organizations to do outreach. In cases where trust has been broken, additional investments in community engagement may be needed. The key is that engagement activities be guided by a genuine desire to understand and be responsive to the values, priorities, and needs of the community.

Healthcare organizations, research institutions, providers, and researchers should invest in and promote community engagement.

This will require institutional leadership to provide financial support and foster a culture that prioritizes relationships with patients, community members, and community organizations. Policies and sustainable funding are needed to incentivize and support community engagement. The recent CMS policy change that allows Medicare to pay for navigation services to help patients and their families navigate treatment for cancer and other serious illnesses is a significant step in the right direction. Navigation has been shown to help address disparities across the cancer continuum.²⁹ The Panel encourages private payers to follow CMS' lead in this area. Health systems and providers should use the Medicare payment for navigation to build bridges with their communities, potentially through partnering with communitybased organizations and employing community health workers.

The requirement for NCI-designated cancer centers to demonstrate their outreach and engagement with populations in their catchment areas has also increased the emphasis on community engagement. However, additional funding devoted to outreach and engagement is needed to ensure that these activities are robust and sustainable. Beyond the NCI Cancer Centers Program, research funding organizations should allow or even require grant budgets to include funds for and support community engagement.

Prioritize Data Sharing and Integration to Accelerate Research

Vast amounts of health-related data are being generated and collected as part of research studies and through the course of clinical care (i.e., realworld data). These data hold tremendous potential to increase understanding of cancer biology, cancer risk, and factors that influence cancer outcomes. This potential was a key theme in 2016 reports from the Cancer Moonshot Blue Ribbon Panel and the President's Cancer Panel that highlighted the need to develop and adopt data standards, enable interoperability among health information technology (IT) systems, build shared infrastructure, and foster a culture of collaboration to promote data sharing and integration to improve cancer research and clinical care.^{30,31}

There has been progress since 2016 in addressing the technical and infrastructure challenges of data sharing and integration. The Minimal Common Oncology Data Elements (mCODE) project, launched by the American Society of Clinical Oncology and MITRE in 2018, has assembled a core set of open-source structured data elements for oncology.^{32,33} The Office of the National Coordinator for Health Information Technology (ONC) has continued to promote interoperability, including through recent adoption of new interoperabilityfocused reporting metrics for certified health IT.³⁴ NCI has committed resources to help develop a National Cancer Data Ecosystem for cancer research, one of the recommendations of the Cancer Moonshot.³⁵ However, the Panel heard that

many healthcare systems have not yet achieved sufficient levels of interoperability and overall digital maturity. **Federal agencies, healthcare systems, research organizations, professional societies, and others should accelerate their efforts to improve and incentivize interoperability, data standardization, and data sharing platform development and use.** Efforts should be made to ensure that smaller organizations and those with fewer resources are able to contribute to and benefit from the digital transformation of healthcare and research.

A culture of collaboration driven by shared goals is just as important as overcoming technical challenges to data sharing and integration. **Stakeholders from all sectors—including government, healthcare organizations, academic institutions, and biopharmaceutical companies—should optimize the usability and availability of their data, including real-world data, to help drive progress in cancer research.** The Health Insurance Portability and Accountability Act should be reevaluated and updated as needed to ensure that it does not unnecessarily interfere with data sharing.

NIH and NCI policies on data sharing—including policies specifically for Cancer Moonshot projects have helped establish the expectation of data sharing for NIH-funded cancer research, including clinical trials.³⁶⁻³⁹ Timely sharing of clinical trial results is of particular importance. These data can provide insights with direct implications for patient care, and the research community has a responsibility to learn as much as possible from the generous contributions of trial participants. Like NIH and NCI, many pharmaceutical companies have committed to sharing clinical trial results,⁴⁰ however, an analysis of recently approved anticancer drugs found that the results for many of the supporting trials were not publicly shared.⁴¹ Clinical trial sponsors-including biopharmaceutical companies-should make all trial results available to the public as soon as possible after the primary endpoints of the trial are completed. When possible, this should include making participant-level data available to qualified users for follow-up analyses. Any trial data submitted to the FDA to support a drug approval should be eligible for sharing, regardless of continuing follow-up.

A culture of collaboration driven by shared goals is just as important as overcoming technical challenges to data sharing and integration.

Conclusions

emarkable progress has been made since President Nixon launched the national effort against cancer with the signing of the National Cancer Act of 1971. Over the past 50 years, the U.S. cancer mortality rate has fallen considerably due to improvements in prevention, early detection, and treatment.⁴² And yet, this progress is not enough. In 2023, there were an estimated 1.9 million cancers diagnosed and more than 600,000 deaths from cancer in the United States.⁴³ In addition, many patients are unnecessarily diagnosed at later stages and have worse prognoses due to inequities in access to early detection and timely treatment.⁴⁴

President Joe Biden and First Lady Jill Biden have had a longstanding and personal commitment to the fight against cancer, exemplified by the launch of the Cancer Moonshot in 2016 and the 2022 call to action to reduce the death rate from cancer by at least 50 percent by 2047 and improve the experience of people and their families living with and surviving cancer.⁴⁵ These goals-while ambitious-are attainable. There are currently unprecedented opportunities in biomedical research and new ways to connect with patients and communities across the country. However, accelerating progress will require continued focus and attention. Stakeholders from all sectors of the National Cancer Programgovernment, philanthropic, academic, industry, and advocacy-must come together and work tirelessly, innovatively, and synergistically to end cancer as we know it. The National Cancer Plan provides a vision and framework for this collaborative approach. With continued and new investments in key priority areas, these goals are sure to be achieved.

The President's Cancer Panel enthusiastically accepted the role of monitoring the implementation of the National Cancer Plan and was excited to learn about many activities being undertaken by individuals and organizations large and small to achieve the eight goals of the Plan. The five priority areas outlined in this report underscore opportunities to boost the impact of these activities to optimize cancer prevention, detection, treatment, and survivorship. As a society, we need policies, systems, and strategies to ensure that every person in the United States-regardless of race, ethnicity, culture, gender identity, where they live, or level of resources-has access to the best possible cancer care and cancer control services. A patient's insurance status and ZIP code should not be a barrier to care, and it is essential that we build a workforce that is capable of and committed to delivering equitable care to all communities. These priority areas also highlight the need to invest in research and make the most of existing data to improve the ability to prevent, diagnose, and treat cancer. There is opportunity to build on recent advances to reduce the number of cancers diagnosed and make cancer a chronic rather than a deadly disease.

This report summarizes the findings of the initial Panel assessment of the National Cancer Plan. In the coming years, the Panel will continue to engage stakeholders from across the National Cancer Program–large and small, national and local, public and private–to assess progress and identify opportunities to more effectively and efficiently achieve the goals of the Plan. The Panel continues to welcome input from the public via email (PresCancerPanel@mail.nih.gov) and social media (@PresCancerPanel).

References

- 1. National Cancer Institute. National cancer plan. Washington (DC): NCI; 2023 April 3. Available from: https://nationalcancerplan.cancer.gov/
- 2. National Cancer Institute. About the RAS Initiative [Internet]. Bethesda (MD): NCI; 2022 Nov 7 [cited 2023 Dec 15]. Available from: https://www.cancer.gov/research/key-initiatives/ras/about
- 3. Frederick National Laboratory for Cancer Research. RAS Initiative [Internet]. Frederick (MD): National Cancer Institute; [cited 2023 Dec 15]. Available from: https://frederick.cancer.gov/initiatives/ras-initiative
- 4. Lowy DR. NCI's fiscal year 2024 budget challenges and interim paylines explained [Internet]. Bethesda (MD): NCI; 2023 Nov 15. Available from: https://www.cancer.gov/grants-training/nci-bottom-line-blog/2023/ nci-fy-2024-budget-challenges-and-interim-paylines-explained
- 5. Zhao J, Han X, Nogueira L, et al. Health insurance status and cancer stage at diagnosis and survival in the United States. CA Cancer J Clin. 2022;72(6):542-60. Available from: https://www.ncbi.nlm.nih.gov/pubmed/35829644
- Keisler-Starkey K, Bunch LN, Lindstrom RA. Health insurance coverage in the United States: 2022. Washington (DC): U.S. Census Bureau; 2023 Sep. Available from: https://www.census.gov/content/dam/Census/library/ publications/2023/demo/p60-281.pdf
- KFF. Status of state Medicaid expansion decisions: interactive map [Internet]. San Francisco (CA): KFF; [updated 2023 Dec 1; cited 2023 Dec 4]. Available from: https://www.kff.org/medicaid/issue-brief/ status-of-state-medicaid-expansion-decisions-interactive-map/
- 8. National Academies of Sciences, Engineering, and Medicine. The impact of the Affordable Care Act on cancer prevention and cancer care: proceedings of a workshop. Washington (DC): The National Academies Press; 2022. Available from: https://nap.nationalacademies.org/catalog/26400/the-impact-of-the-affordable-care-act-on-cancer-prevention-and-cancer-care
- 9. Hotca A, Bloom JR, Runnels J, et al. The impact of Medicaid expansion on patients with cancer in the United States: a review. Curr Oncol. 2023;30(7):6362-73. Available from: https://www.ncbi.nlm.nih.gov/pubmed/37504329
- Institute of Medicine. Ensuring quality cancer care through the oncology workforce: sustaining care in the 21st century: workshop summary. Washington (DC): The National Academies Press; 2009. Available from: https://nap.nationalacademies.org/catalog/12613/ ensuring-quality-cancer-care-through-the-oncology-workforce-sustaining-care
- 11. Mulligan A, West C, Calero MA, et al. Clinician of the future 2023: elevating global voices in healthcare. Amsterdam (NL): Elsevier; 2023 Aug. Available from: https://www.elsevier.com/promotions/clinician-of-the-future-2023
- 12. Institute of Medicine. Unequal treatment: confronting racial and ethnic disparities in health care. Washington (DC): The National Academies Press; 2003. Available from: https://nap.nationalacademies.org/catalog/12875/ unequal-treatment-confronting-racial-and-ethnic-disparities-in-health-care
- 13. LaVeist TA, Pierre G. Integrating the 3Ds—social determinants, health disparities, and health-care workforce diversity. Public Health Rep. 2014;129 Suppl 2(Suppl 2):9-14. Available from: https://www.ncbi.nlm.nih.gov/pubmed/24385659
- 14. Getz K, Florez M, Botto E, et al. Global investigative site personnel diversity and its relationship with study participant diversity. Ther Innov Regul Sci. 2022;56(5):777-84. Available from: https://www.ncbi.nlm.nih.gov/pubmed/35687265

- 15. Kraft SA, Cho MK, Gillespie K, et al. Beyond consent: building trusting relationships with diverse populations in precision medicine research. Am J Bioeth. 2018;18(4):3-20. Available from: https://www.ncbi.nlm.nih.gov/pubmed/29621457
- National Institutes of Health. NOT-OD-20-031: Notice of NIH's interest in diversity [Internet]. Bethesda (MD): NIH; 2019 Nov 22 [cited 2023 Dec 3]. Available from: https://grants.nih.gov/grants/guide/notice-files/ NOT-OD-20-031.html
- 17. National Institutes of Health. UNITE [Internet]. Bethesda (MD): NIH; [updated 2023 May 23; cited 2023 Dec 4]. Available from: https://www.nih.gov/ending-structural-racism/unite
- 18. National Cancer Institute. Building a diverse workforce [Internet]. Bethesda (MD): NCI; [updated 2023 Sep 21; cited 2023 Dec 4]. Available from: https://www.cancer.gov/grants-training/training/idwb
- 19. Bogler O. NCI's sustained funding and engagement for mentored cancer researchers. NCI Bottom Line Blog [Internet]. 2023 July 10 [cited 2024 Jan 11]. Available from: https://www.cancer.gov/grants-training/ nci-bottom-line-blog/2023/ncis-sustained-funding-and-engagement-for-mentored-cancer-researchers
- National Institutes of Health. NIH Data Book: Kirschstein-NRSA pre-doctoral fellowships (F31s): competing applications, awards, and success rates [Internet]. Bethesda (MD): NIH; [updated 2022 Dec; cited 2024 Jan 19]. Available from: https://report.nih.gov/nihdatabook/report/61
- 21. National Institutes of Health. NIH Data Book: Kirschstein-NRSA pre-doctoral fellowships (F32s): competing applications, awards, and success rates [Internet]. Bethesda (MD): NIH; [updated 2022 Dec; cited 2024 Jan 19]. Available from: https://report.nih.gov/nihdatabook/report/62
- 22. American Society of Clinical Oncology. 2020 Snapshot: state of the oncology workforce in America. JCO Oncol Pract. 2021;17(1):30. Available from: https://www.ncbi.nlm.nih.gov/pubmed/32840423
- 23. Health Resources and Services Administration. Telehealth policy changes after the COVID-19 public health emergency [Internet]. Rockville (MD): HRSA; [updated 2023 Aug 31; cited 2023 Dec 4]. Available from: https://telehealth.hhs.gov/providers/telehealth-policy/policy-changes-after-the-covid-19-public-health-emergency
- 24. Center for Connected Health Policy. State telehealth laws and reimbursement policies report, fall 2023. Sacramento (CA): CCHP; 2023 October. Available from: https://www.cchpca.org/resources/state-telehealth-laws-and-reimbursement-policies-report-fall-2023-2/
- 25. The White House. Fact sheet: Biden-Harris Administration announces over \$40 billion to connect everyone in America to affordable, reliable, high-speed internet [Press Release]. Washington (DC): The White House; 2023 June 26. Available from: https://www.whitehouse.gov/briefing-room/statements-releases/2023/06/26/fact-sheetbiden-harris-administration-announces-over-40-billion-to-connect-everyone-in-america-to-affordable-reliablehigh-speed-internet/
- 26. Interstate Medical Licensure Compact. About the Compact [Internet]. Littleton (CO): IMLC; [cited 2024 Jan 17]. Available from: https://www.imlcc.org/a-faster-pathway-to-physician-licensure/
- 27. Cyril S, Smith BJ, Renzaho AMN. Systematic review of empowerment measures in health promotion. Health Promot Int. 2016;31(4):809-26. Available from: https://www.ncbi.nlm.nih.gov/pubmed/26137970
- 28. Leader AE, Aplin AE. From the community to the bench and back again: the value of patient and community engagement in cancer research. Cancer Discov. 2021;11(9):2135-8. Available from: https://www.ncbi.nlm.nih.gov/pubmed/34479970
- 29. Dixit N, Rugo H, Burke NJ. Navigating a path to equity in cancer care: the role of patient navigation. Am Soc Clin Oncol Educ Book. 2021;41:1-8. Available from: https://www.ncbi.nlm.nih.gov/pubmed/33830828
- Cancer Moonshot Blue Ribbon Panel. Cancer Moonshot Blue Ribbon Panel Report. Bethesda (MD): National Cancer Institute; 2016 Oct 17. Available from: https://www.cancer.gov/research/key-initiatives/moonshot-cancerinitiative/history/blue-ribbon-panel-report-2016.pdf

- 31. President's Cancer Panel. Improving cancer-related outcomes with connected health: a report to the President of the United States from the President's Cancer Panel. Bethesda (MD): President's Cancer Panel; 2016. Available from: https://prescancerpanel.cancer.gov/report/connectedhealth/
- 32. MITRE. Minimal Common Data Elements (mCODE) implementation guide [Internet]. HL7 International; [updated 2023 Oct 25; cited 2024 Jan 4]. Available from: https://hl7.org/fhir/us/mcode/index.html
- 33. Osterman TJ, Terry M, Miller RS. Improving cancer data interoperability: the promise of the minimal Common Oncology Data Elements (mCODE) initiative. JCO Clin Cancer Inform. 2020;4:993-1001. Available from: https://www.ncbi.nlm.nih.gov/pubmed/33136433
- 34. U.S. Department of Health and Human Services. HHS finalizes rule to advance health IT interoperability and algorithm transparency [Press Release]. Washington (DC): DHHS; 2023 Dec 13. Available from: https://www.hhs.gov/about/news/2023/12/13/hhs-finalizes-rule-to-advance-health-it-interoperability-and-algorithm-transparency.html
- 35. National Cancer Institute. Build a National Cancer Data Ecosystem [Internet]. Bethesda (MD): NCI; 2018 Oct 22 [cited 2024 Jan 4]. Available from: https://www.cancer.gov/research/key-initiatives/moonshot-cancer-initiative/ implementation/data-ecosystem
- 36. National Cancer Institute. NCI Cancer Moonshot Public Access and Data Sharing Policy [Internet]. Bethesda (MD): NCI; [updated 2021 Dec 16; cited 2024 Jan 8]. Available from: https://www.cancer.gov/research/key-initiatives/ moonshot-cancer-initiative/funding/public-access-policy
- 37. National Cancer Institute. NOT-CA-15-011: The National Cancer Institute policy ensuring public availability of results from NCI-supported clinical trials [Internet]. Bethesda (MD): National Institutes of Health; 2015 Jan 28 [cited 2024 Jan 8]. Available from: https://grants.nih.gov/grants/guide/notice-files/NOT-CA-15-011.html
- National Institutes of Health. NOT-OD-16-149: NIH Policy on the dissemination of NIH-funded clinical trial information [Internet]. Bethesda (MD): NIH; 2016 Sep 16 [cited 2024 Jan 8]. Available from: https://grants.nih.gov/ grants/guide/notice-files/not-od-16-149.html
- National Institutes of Health. NOT-OD-21-013: Final NIH policy for data management and sharing [Internet]. Bethesda (MD): NIH; 2020 Oct 29 [cited 2024 Jan 8]. Available from: https://grants.nih.gov/grants/guide/noticefiles/NOT-OD-21-013.html
- 40. PhRMA. PhRMA principles for clinical trial data sharing. Washington (DC): PhRMA; 2023 July 25. Available from: https://phrma.org/en/resource-center/Topics/Clinical-Trials/PhRMA-Principles-for-Clinical-Trial-Data-Sharing
- Modi ND, Abuhelwa AY, McKinnon RA, et al. Audit of data sharing by pharmaceutical companies for anticancer medicines approved by the US Food and Drug Administration. JAMA Oncol. 2022;8(9):1310-6. Available from: https://www.ncbi.nlm.nih.gov/pubmed/35900732
- 42. Kratzer TB, Siegel RL, Miller KD, et al. Progress against cancer mortality 50 years after passage of the National Cancer Act. JAMA Oncol. 2022;8(1):156-9. Available from: https://www.ncbi.nlm.nih.gov/pubmed/34762103
- 43. American Cancer Society. Cancer facts & figures 2023. Atlanta (GA): ACS; 2023. Available from: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/2023-cancer-facts-figures.html
- 44. Siegel RL, Miller KD, Wagle NS, Jemal A. Cancer statistics, 2023. CA Cancer J Clin. 2023;73(1):17-48. Available from: https://www.ncbi.nlm.nih.gov/pubmed/36633525
- 45. The White House. Fact sheet: President Biden reignites Cancer Moonshot to end cancer as we know it [Press Release]. Washington (DC): The White House; 2022 Feb 2. Available from: https://www.whitehouse.gov/ briefing-room/statements-releases/2022/02/02/fact-sheet-president-biden-reignites-cancer-moonshot-to-endcancer-as-we-know-it/

Appendix A: Meeting Participants

Stakeholder Organization	Representatives
American Association for Cancer Research	Margaret Foti, PhD, MD Philip Greenberg, MD, FAACR
American Cancer Society	Karen Knudsen, PhD, MBA
American Society for Radiation Oncology	Jeff Michalski, MD, MBA, FASTRO
American Society of Clinical Oncology	Clifford Hudis, MD, FASCO, FACP Lynn Schuchter, MD, FASCO
American Society of Preventive Oncology	Anita Kinney, PhD, RN, FAAN, FABMR
Association of Community Cancer Centers	Olalekan Ajayi, PharmD, MBA
CEO Roundtable on Cancer	William Louv, PhD David Reese, MD
Health Information and Management Systems Society	Anne Snowdon, PhD, MSc
National Comprehensive Cancer Network	Robert Carlson, MD Wui-Jin Koh, MD
National Hispanic Medical Association	Elena Rios, MD, MSPH, MACP
National Medical Association	Yolanda Lawson, MD, FACOG Edith Mitchell, MD, MACP, FCPP, FRCP
Oncology Nursing Society	Danya Garner, PhD, RN, NPD-BC, OCN, CCRN-K Brenda Nevidjon, MSN, RN, FAAN

Appendix B: Table of Activities Related to the National Cancer Plan

In addition to convening a stakeholder meeting, the President's Cancer Panel invited the cancer community and the general public to submit information on programs, activities, and achievements relevant to the National Cancer Plan. The table below contains submissions from 29 organizations and individuals, as well as activities described at the meeting. Although the activities may be relevant to many or all of the NCP goals, the table highlights areas of particular focus for each activity, as determined by the submitters and PCP staff.

		Activities		Nc	itiona	l Can	cer Plo	an Go	als	
			(+)	Q		₽Ţ ₽	$\bigcirc +$	•2 •		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
Advocates for Universal DPD/ DPYD Testing (AUDT)		AUDT advocates for the implementation of dihydropyrimidine dehydrogenase (DPD) deficiency testing in pre-chemotherapy evaluation to prevent chemo-related toxicities.			x	x	x			
Alliance for Clinical Trials in Oncology	Alliance Participant Engagement Portal - PEP Newsletter	The Alliance Participant Engagement Portal (PEP) provides innovative ways to keep clinical trial participants engaged at key touchpoints throughout a trial.						Х		
American Association for Cancer Research (AACR)	Project GENIE	Project GENIE is an open-source, international, pancancer tumor registry of real-world clinico-genomic data assembled through data sharing with the goals of improving clinical decisions and catalyzing clinical and translational research.						Х	х	
	SU2C	AACR is the scientific partner and external grants administrator of Stand Up To Cancer (SU2C). A Scientific Advisory Committee conducts rigorous competitive review processes to identify the best research proposals to recommend for funding, oversee grants administration, and provide expert review of research progress.			x				х	
	AACR Conferences and Task Forces	AACR brings together researchers from across the cancer research continuum to share scientific knowledge via many conferences each year. Conference topics include behavioral and lifestyle sciences, early detection, epidemiology, cancer and health disparities, risk prediction, and cancer therapeutics. AACR also publishes research in its suite of peer-reviewed research publications, such as <i>Cancer Prevention Research</i> and <i>Clinical Cancer Research</i> .	x	x	X	X				
	AACR Cancer Disparities Progress Report Series	The AACR Cancer Disparities Progress Report Series aims to educate members of Congress, the public, and the scientific community about cancer disparities and the importance of medical research to the elimination of disparities; and to advocate for increased federal funding for health equity-focused research.				x				

		Activities		No	itiona	l Can	cer Plo	an Go	als	
			(+)	Q		4 L	$\bigcirc +$	<u>-</u> 2•		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
	Robert A. Winn Diversity in Clinical Trials Award Program	The program aims to increase diversity in clinical trials and transform the clinical research landscape by developing a diverse workforce of clinical trial investigators. Awards support early-stage investigators and medical students.				х				x
	Scientist≪→ Survivor (SSP) Program	The SSP strengthens and supports collaborations between leaders of patient advocacy groups and those in the scientific community, including through online Patient Advocate Forums.						х		
American Cancer Society (ACS)	Clinical Trials Enabling Research Scholar	The Clinical Trials Enabling Research Scholar Grant funds translational research projects. As a beta test of this mechanism, ACS collaborated with NIH to accept sub- projects of SPORE grant applications that scored well in review but were not funded.	x							
	Color Health Partnership	ACS' new partnership with Color Health aims to increase access and adherence to cancer screening and prevention. ACS and Color Health are working to close the gap between coverage and access for 156 million Americans who receive healthcare through their employer or union by providing convenient, accessible, and comprehensive cancer prevention and screening solutions for the highest-burden cancers.	x							
	Employer Awareness Toolkit	ACS works with corporate partners and companies across the country, providing them with Employer Awareness Toolkits (cancer prevention and early detection) for their workforces. ACS offers toolkits for colorectal, skin, prostate, and breast cancers, as well as nutrition information.	X							
	ACS CAN - Advocacy in Action	In the summer of 2023, ACS CAN Ohio placed a billboard in downtown Columbus, and volunteers contacted Governor DeWine after the State Senate cut funding for smoking cessation in half and included language that would remove local governments' control to protect the health of their residents.	x							
	Cancer Guidelines Update	In 2023, ACS updated the guideline development process to support a "living guideline" model, in which evidence is assessed continually. These documents will continue to provide evidence-based screening guidelines that educate the public and influence coverage decisions.		х						
	ACS National Roundtables	ACS runs six national roundtables (focused on breast, cervical, colorectal, and lung cancer; HPV vaccination, and patient navigation), which are coalitions of organizations dedicated to a shared vision of giving all people a fair and just opportunity to prevent and survive cancer. The 2023 priority aims are catalyzing action, building capacity, aligning activities, and centering health equity.		x						

		Activities		No	itiona	l Can	cer Plo	an Go	als	
			(+)	Q	Ê	₽ ₽	$\bigcirc +$	- 2.	(ii)	
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
	Advocacy/ACS CAN: Biomarker Testing	Storytelling is a key tactic to illustrate the direct benefit of biomarker testing. ACS CAN has provided educational briefings for lawmakers and strong coalition-building in states before bill introduction around biomarker testing.		х						
	VOICES of Black Women (Cohort)	This large population cohort study (n = 100,000) aims to better understand cancer risks and cancer outcomes among Black women. Future findings will inform strategies to improve cancer prevention, treatment, and survivorship (and other health outcomes) for Black women.				x				
	Amate a ti misma (Campaign)	Amate a ti misma is a 15+-year annual cancer prevention and screening campaign that reaches Hispanic/Latino communities with screening messages. The campaign encourages individuals to call ACS' National Cancer Information Center (NCIC) 24/7 helpline for Spanish- language screening information.				х				
American Lung Cancer Association	Awareness, Trust, and Action Program	The Awareness, Trust, and Action Program aims to increase lung cancer survival rates among Black Americans by empowering individuals to participate in clinical trials for cutting-edge treatments.				х		х		
American Society of Clinical Oncology (ASCO)	ASCO Certified	This patient-centered cancer care certification program supports value-based care for patients, practices, and payers. Launched nationally in July 2023, the program has attracted payer and employer interest as a potential payment model for value-based cancer care.			Х	Х	Х	Х	Х	Х
	Rural Cancer Care Access Demonstration Project	This pilot uses a hub and spoke model to deliver care to remote rural sites with the goal of developing a sustainable framework for implementation at future sites. Continuous quality improvement and increasing collaboration with local primary care providers are prominent features of the pilot.				х	x	Х	Х	х
	mCODE (Minimal Common Oncology Data Elements) project	mCODE is a freely available common language for sharing oncology-related electronic health record (EHR) data. The project goal is to increase EHR interoperability and data exchange, with the aim of advancing cancer research, improving patient care, and enhancing the ability to compare outcomes across different clinical settings.			x		x	х	х	
	Research Site Self-Assessment and Just ASK Training Program	These two online resources were developed to help research sites improve equity, diversity, and inclusion in clinical trials.				x		х		

		Activities		No	ıtiona	l Can	cer Plo	an Go	als	
			(+)	Q	4	₽ ₽	$\bigcirc +$	<u>-2</u>		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
	State of Cancer Care in America (SOCCA) program	ASCO's SOCCA program conducts health services research to understand the current challenges, opportunities, and trends affecting oncology clinicians in daily practice.								x
	Programs supporting workforce diversity	ASCO's programs and activities to improve workforce diversity include the Diversity in Oncology Initiative; the Diversity Mentoring Program; funding the Medical Student Rotation for Underrepresented Populations, which provides financial support for medical students/ residents from underrepresented backgrounds; and the Oncology Summer Internship Program.								х
	Equity, Diversity, and Inclusion Action Plan	A recently renewed Equity, Diversity, and Inclusion Action Plan commits ASCO to building a diverse pipeline of oncology professionals and leaders by increasing participation in its professional development programs by members from subpopulations underrepresented in medicine or from low- and middle-income countries.								х
American Society of Preventive Oncology (ASPO)	Annual Meeting	ASPO's keystone activity, the Annual Meeting held every spring, brings together a diverse group of cancer researchers, cancer outreach staff, and community health advocates.	x				x			x
	Special Interest Groups	ASPO's Special Interest Groups (SIGs) focus on key domains of cancer prevention and control research. Groups such as the Behavioral Science and Health Communication and Survivorship and Health Outcomes/ Comparative Effectiveness Research Group host regular webinars, provide programming for the Annual Meeting, and contribute to the ASPO pages in Cancer, Epidemiology, Biomarkers, & Prevention.			x		х		х	
	Fostering Diversity & Inclusion; Recognizing Excellence	ASPO provides travel support to the Annual Meeting for investigators from underrepresented groups, early career scientists, and community scientists/advocates. ASPO also gives two awards recognizing excellence in cancer prevention research.								Х

	Activities						x Prevent Cancer x Detect Cancers x Detect Cancers <td< th=""><th></th></td<>			
			(+)	Q		٥ţ٩	$\bigcirc \neq$	<u>-</u> 2•		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
Association of Community Cancer Centers (ACCC)	Rural Appalachian Lung Cancer Screening Initiative	The initiative seeks to increase lung cancer screening rates in targeted counties in Kentucky, West Virginia, and Virginia by addressing operational challenges in implementing lung cancer screening programs, identifying and addressing barriers that inhibit residents from seeking preventative cancer care, and partnering with local advocates to support practice sites with new approaches to promote the importance of screening.	x	x		x				x
	Financial Advocacy Network	The Financial Advocacy Network offers resources to help providers better address patients' financial concerns, with the ultimate goal of reducing financial toxicity for patients and their families. Key to these efforts are the financial navigators or financial advocates, who screen patients and families for financial distress and then help to optimize insurance benefits, identify financial assistance opportunities, address practical needs, and connect patients and families with community resources.				x				
	Advancing Health Equity in Cancer Care	Multiple ACCC initiatives are working toward comprehensive cancer care: Personalizing Care for Patients of All Backgrounds: Insights for the Multidisciplinary Cancer Care Team; Eliminating Disparities in Access to Quality Cancer Care in African American Women with Triple Negative Breast Cancer; and Supportive Care Strategies for Promoting Health Equity in Minoritized Patients with Breast Cancer.				x				x
	Precision Medicine and Diagnostics	ACCC provides education on advancements in precision medicine, targeted therapies, biomarkers, and innovative cancer screening technologies. It also is part of a coalition of provider and patient advocacy organizations supporting the passage of legislation providing Medicare coverage of multi-cancer early detection screening tests. The ACCC Eliminating Precision Medicine Disparities education project is focused on understanding barriers and challenges to equal access to precision medicine testing among underserved patient communities.				X				

		Activities	a al							
			(+)	Q	4	4 L	$\bigcirc +$	• 2•		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
ASTRO: American Society for Radiation Oncology	Radiation Oncology Case Rate (ROCR) Program	ROCR is a legislative initiative to address the instability of current volume-based radiation therapy services payment models in favor of value-based payment on a per-patient basis, rather than per treatment. ROCR would align financial incentives with evolving clinical guidelines, including those supporting shorter, more convenient treatment regimens, when appropriate.				х	x			
	Enhancing Research Innovation and Implementation	ASTRO drives computational and technical areas of science and is fully engaged in imaging, informatics, and data science advances for cancer care. Radiation oncology is breaking new ground through innovative uses of artificial intelligence-enabled precision radiotherapy, radiopharmaceuticals, radiation- immunotherapeutic combinations, ultra-high-dose rate (FLASH) radiotherapy, proton/particle therapy, and survivorship care.			X					
	Career development of a diverse radiation oncology workforce	ASTRO supports career development in research, including through the Research-Oriented Career Knowledge and Support (ROCKS) program, and funds early career investigators in partnership with leading patient advocacy groups and industry.								x
	Increasing data liquidity for cancer patients	Since 2019, ASTRO has been creating solutions to increase cancer data liquidity for patients, researchers, and clinicians.							Х	
Cancer Support Community San Francisco Bay Area	Community report, "Addressing Health Equity in Supportive Cancer Care for Black Cancer Patients and their Families"	The report highlights the impact of health inequities in supportive cancer care for Black and African American cancer patients. It was a collaborative effort with UC Berkeley Public Health graduate students, involving a research review and a survey of local cancer patients and their families.				X	Х			

		Activities		Nc	itiona	l Can	cer Plo	an Go	als	
			(+)	Q		aja	$\bigcirc +$	-		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
CEO Roundtable on Cancer	CEO Cancer Gold Standard	The Gold Standard is a workplace wellness accreditation program that encourages organizations to demonstrate their commitment to reducing the risk and burden of cancer among employees, families, and communities. For accreditation, organizations must demonstrate a workplace culture that includes extensive concrete actions in five key areas: health education and navigation, prevention and early detection, advancing treatment, survivorship, and well-being.	x	x						
	Going for Gold Initiative	This initiative applies the Gold Standard framework to minority-serving academic institutions committed to advancing prevention, diagnosis, and quality cancer treatment for students, faculty, staff, alumni, parents, and communities. Activities include collaborating with historically Black colleges and universities and Hispanic-serving institutions to lower the burden of cancer in medically underserved communities and partnering with institutions to enhance opportunities for research participation.				x				
	Collaborative Oncology Data and Analytics (CODA) Platform	The platform demonstrates the impact of data transparency in clinical oncology.							х	
	Real World Data Demonstration Projects	These projects honor patient contributions to science through thoughtful re-use of clinical trial patient data and electronic health records. Example topics include innovative clinical trial designs and methods to understand and treat rare skin cancers.			х		x			
Brock N. Cordeiro (Personal initiative)	Pass House Bill 2182/Senate Bill 1330 in Massachusetts (An Act to reduce incidence and death from pancreatic cancer)	The act establishes a comprehensive pancreatic cancer initiative within the Department of Public Health to provide coordinated pancreatic cancer prevention, screening, education, and support programs.	x	x			x			
Fogarty International Center at NIH	Cancer research	Fogarty International Center currently supports 60 different grants focused on cancer or cancer-related research.			x		x			

	DomOncology activitiesGenomOncology activitiesGenomOncology works to provide the healthcare community with data-driven insights and precisi oncology software solutions that advance overal cancer care.thcare mation and agement ems SocietyDigital Transformation ActivitiesThe society's thought leadership and digital transformation activities enable all eight goals on National Cancer Plan. Examples include work to tools to support preventive health behaviors, stre screening access, and optimize real-world evider treatment outcomes.Digital Health IndicatorThe Digital Health leadership and optimize real-world eviden treatment outcomes.Digital Health IndicatorThe Digital Health leadership cancer early data and real-world evidence to achieve exception sustainable quality, safety, and performance.tel Kim Lab C Santa CruzRNA liquid biopsies for cancer early detectionThe lab develops portable, cost-effective nanopore-based diagnostic tests for remote and resource-limited settings.ular Breast ter Alliance activitiesLobular Breast Cancer Alliance activitiesThe Lobular Breast Cancer Alliance is an advocat organization raising awareness of lobular breast (UBC) promoting invasive lobular carcinoma (ILC patient advocacy and ILC research through its w and publications, surveys of community member small research grants, collaborations, and outre government and large cancer institutions.onalShorteningNAPT works collaboratively to raise public aware			No	itiona	l Can	cer Plo	an Go	als	
			(+)	Q	Î	٥j۵	$\bigcirc +$	- 2.		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
GenomOncology		GenomOncology works to provide the healthcare community with data-driven insights and precision oncology software solutions that advance overall cancer care.							х	
Healthcare Information and Management Systems Society (HIMSS)	Transformation	transformation activities enable all eight goals of the National Cancer Plan. Examples include work to develop tools to support preventive health behaviors, strengthen screening access, and optimize real-world evidence of	x	х	х					
		The Digital Health Indicator measures progress toward a digital health ecosystem. With this scale, operational and care delivery processes are outcome driven, informed by data and real-world evidence to achieve exceptional and sustainable quality, safety, and performance.						Х	х	х
Daniel Kim Lab at UC Santa Cruz	biopsies for cancer early	nanopore-based diagnostic tests for remote		х						
Lobular Breast Cancer Alliance Inc.	Cancer Alliance	The Lobular Breast Cancer Alliance is an advocacy organization raising awareness of lobular breast cancer (LBC) promoting invasive lobular carcinoma (ILC) patient advocacy and ILC research through its website and publications, surveys of community members, small research grants, collaborations, and outreach to government and large cancer institutions.		x	х					
National Association for Proton Therapy (NAPT)	Shortening delays to innovative cancer treatment & supporting access to proton therapy	NAPT works collaboratively to raise public awareness of proton therapy, ensure patient choice and access to affordable treatment, and encourage cooperative research and innovation to advance proton therapy's appropriate and cost-effective utilization. They are working to reduce the impact of prior authorization on cancer patients' access to proton therapy.			Х					

		Activities		Na	tiona	l Can	cer Plo	an Go	als	
			(+)	Q	4	₽Ţ ₽	$\bigcirc +$	_		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
National Comprehensive Cancer Network (NCCN)	NCCN Clinical Practice Guidelines in Oncology	NCCN publishes the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines [®]), which includes evidence-based recommendations for the treatment of different cancer types, as well as key cancer screening and prevention topics. These are available online free of charge for non-commercial use.	x	х		x	x	x		
	NCCN Guidelines for Patients	There are more than 65 NCCN Guidelines for Patients [®] , versions of the NCCN Guidelines that provide people with cancer and their loved ones with easy-to-understand information about treatment recommendations and how to discuss them with their care team. There are more than 65 language translations available.				x	х			
	Elevating Cancer Equity Initiative	The Elevating Cancer Equity (ECE) Initiative aims to address racial disparities in cancer care by conducting surveys to better understand perceptions and experiences of bias in care delivery, convening a working group of national experts, and disseminating recommendations and advocating for implementation.				х				
	Health Equity Report Card	NCCN provides this tool for providers, payers, and accreditation entities working to advance equitable practices in cancer care. It includes 17 practices to advance equitable care delivery.				x				
	NCCN Diversity, Equity, and Inclusion Directors Forum	The forum allows NCCN Member Institutions to share information and advance diversity, equity, and inclusion priorities at Member Institutions and NCCN. Members are individuals with the authority to speak for the institution with respect to DEI topics, such as chief diversity officers and directors of DEI.				х				
National Hispanic Medical Association (NHMA)	Education & Traditional Media Campaigns	NHMA provides culturally and linguistically appropriate healthcare and prevention information. The society joined the Association of American Indian Physicians and the National Council of Asian Pacific Islander Physicians in creating the Alliance of Multicultural Physicians to further promote language access and cultural competency projects. NHMA also created the HispanicHealth.info, a unique portal with health information in English and Spanish for providers and patients.	X			x				

		Activities		Nc	itiona	l Can	cer Plo	an Go	als	
			(+)	Q		₽ ₽	$\bigcirc \neq$	•2 •		
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce
	Promoting Workforce Diversity	The NHMA College Health Scholars Program is documenting the efficacy of in-person and web-based mentoring for college students. The NHMA national conference included a forum on the importance of increasing diversity through mentoring. Through a cooperative agreement with the Centers for Disease Control and Prevention (CDC), the association has also launched a workforce development program to increase diversity in the public health sector. The NHMA is working with Advanced Research Projects Agency for Health (ARPA-H) to recruit Hispanic professionals as program managers, and with researchers and technology organizations on a summit.								x
	Supporting Research Activities	NHMA supports Hispanic medical, nursing, dentistry, and public health students and pharmacists through its National Hispanic Health Foundation and National Hispanic Pharmacists Association. The association also works to connect cancer researchers with mentorships, support clinical trials, and increase Hispanic representation on advisory boards and councils.								x
National Medical Association (NMA)	National Medical Association Cancer Initiative	The initiative aims to reduce cancer mortality disparities among African American communities, increase screening in medically underserved communities, raise awareness about the importance of cancer screening, and advocate for access to affordable and comprehensive screening programs.	x	х		x	x			
	Addressing Workforce Disparities	The NMA has several collaborative initiatives in place to increase equity and representation, including the Jane Cooke Wright, M.D. Cancer Disparities Symposium, the Cobb Scholars Program, the Multiple Myeloma Initiative, and a partnership with the National Association of Black Oncologists.				х				x
	Consortium on Disparities of Urologic Conditions (ConDUC)	The association recently launched the Consortium on Disparities of Urologic Conditions (ConDUC), within the Scientific Consortium on Prostate Cancer Education (SCOPE) registry, a database of predominantly African American patients and a resource for connecting patients to clinical trials. The consortium also provides mentoring and training for African American urologists with respect to the development of their professional skillsets and the importance of clinical trials and trial participation.						X	Х	X

Activities			National Cancer Plan Goals								
			(+)	Q		₽ ₽	$\bigcirc \neq$	* 2•			
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce	
Oncology Nursing Society (ONS)	Biomarker Database: Using Precision Oncology to Provide Effective Treatments	The database gives clinicians information on 19 cancer types and more than 130 biomarkers to answer questions such as: <i>What biomarker testing does my</i> <i>patient need and how often?</i>			х						
	Resources for Symptom Management	ONS offers guidelines, courses, podcasts, and publications to assist members with symptom management.			x		x				
	Developing the Pipeline for Oncology Nurses	ONS is supporting future students, nurses, and researchers by educating prelicensure students about opportunities in oncology nursing, providing oncology training and resources to advanced practice nurses, and training nurse scientists.								Х	
Outpatient Oncology Infusion Clinic, Penn Medicine in Southern NJ	Screening of health-related social needs - Pilot Program	The clinic is standardizing assessment of health- related social needs at the first chemotherapy teaching visit, throughout treatment, and at the beginning of survivorship care. The goal is to help address these common needs at the start of treatment and have resources put in place so that patients can continue their necessary treatment without interruptions that can affect their outcomes.				x	x				
Picture Health	Picture Health activities	Picture Health is a startup that provides oncologists with the latest AI-powered diagnostics tools. It created interpretable AI biomarkers that can be used throughout a patient's cancer journey, from diagnosis to treatment selection and progress monitoring.			х				Х		
Seagen	Antibody drug conjugate therapy development	Seagen achieves diversity in clinical trials through diversity and inclusion strategy, inclusive trial design, patient-centric solutions, site engagement, and collaborations with trusted messengers and advocates.			х			x			
Laurence Segal (Personal initiative)	Bottles for a Cure	Mr. Segal encourages early detection and prevention for all forms of cancer, as well as raising dollars for cancer research. Every month, he holds at least one blood drive with the American Red Cross to help cancer patients and make sure that blood is available when cancer patients need it.	x	x							
SelfMade Health Network	Outreach and education activities	SelfMade Health Network focuses on reducing and eliminating tobacco-related and cancer health disparities in populations with low socioeconomic status characteristics. Since the Cancer Moonshot relaunch, the network has embraced and remains committed to this national initiative through webinars, a fact sheet series, an infographic, social media, and the network's quarterly newsletter.	x	x		x					

Activities			National Cancer Plan Goals								
			(+)	Q		٥j	$\bigcirc \neq$	- 2:			
Organization	Activity Name	Description	Prevent Cancer	Detect Cancers Early	Develop Effective Treatments	Eliminate Inequities	Deliver Optimal Care	Engage Every Person	Maximize Data Utility	Optimize the Workforce	
The Tisch Cancer Institute (TCI), Icahn School of Medicine at Mount Sinai in New York City		Researchers are working on a variety of projects to develop effective cancer treatments.			х		x				
		TCI has initiatives in place to detect cancer early, including extensive screening programs for many cancers, mobile prostate screening and mammography units, and a project under way to evaluate anal cancer screening in high-risk women previously diagnosed with human papillomavirus.		x							
	Stand Up To Cancer® (SU2C)	Nina Bickell, MD, PhD, is leading a multi-institutional SU2C Health Equity Breakthrough Team to address disparities in cancer clinical trials.				х		Х			
	Community Outreach and Engagement	TCI works in partnership with community organizations to provide education and information and help individuals in underserved areas navigate the healthcare system and access cancer care services.				x	х				
UE LifeSciences	UE LifeSciences activities	UE LifeSciences works in the prevention and early detection of breast cancer, bringing health equity through innovation and technology. As a member of the health industry, it shares the responsibility of helping women across the U.S. and the world in detecting cancer as early as possible.		X							
University of Colorado (CU Anschutz) Cancer Center	Colorado Cancer Screening Program	A statewide initiative that enables partners with safety net hospitals and clinics to offer no-cost patient navigation services for cancer screening to medically underserved communities.		х							
	Multidisciplinary Clinics	The CU Cancer Center offers multidisciplinary clinics, where patients are seen by doctors from multiple specialties—including surgical oncologists, medical oncologists, radiation oncologists, pathologists, dietitians, and genetic counselors—all at the same time.					Х				
	Rural Cancer Advisory Board	The Rural Cancer Advisory Board comprises nine women from rural backgrounds who provide insight, feedback, and recommendations to cancer researchers from a rural patient and caregiver perspective.				x					
UT Southwestern Simmons Comprehensive Cancer Center	Blue-button Initiative	The initiative was developed with the aim of utilizing data elements from electronic medical records to identify cancer clinical trials.							Х		



PUBLISHED FEBRUARY 2024