THE WHITE HOUSE
Office of the Vice President

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FACT SHEET: Investing in the National Cancer Moonshot

During his 2016 State of the Union Address, President Obama called on Vice President Biden to lead a new, national "Moonshot" initiative to eliminate cancer as we know it. Today, the White House is announcing a new $1 billion initiative to jumpstart this work.

Too many American families know all too well the devastation cancer can bring. More than 1.6 million new cases of cancer will be diagnosed and cancer will kill an estimated 600,000 Americans in 2016. Cancer doesn't discriminate – it strikes young and old, family and friends, neighbors and co-workers. As the President said, we must harness the spirit of American innovation to identify new ways to prevent, diagnose, and treat cancer.

We are at an inflection point, and the science is ready for the concerted new effort this initiative will deliver. Cancer is now known to be hundreds of diseases, each with unique features, driving forces, and vulnerabilities to treatments -- and scientific understanding of how cancer develops and spreads has improved our ability to intervene and attack it. For example, recent advances have led to the ability to activate the immune system against cancer cells. Called immunotherapy, this approach has shown success with melanoma, leukemia, and lymphoma, and is ripe for further exploration in a wider range of cancers. Another approach attacks multiple pathways fundamental in cancer development, using combinations of therapeutic agents to prevent resistance from occurring. But, much more work remains to be done.

The National Cancer Moonshot will work to accelerate these research efforts and break down barriers to progress by enhancing data access, and facilitating collaborations with researchers, doctors, philanthropies, patients, and patient advocates, and biotechnology and pharmaceutical companies. The initiative aims to bring about a decade's worth of advances in five years, making more therapies available to more patients, while also improving our ability to prevent cancer and detect it at an early stage.

Last week, the President took the first step in this effort, establishing a new Cancer Moonshot Task Force – to be led by the Vice President – to focus on making the most of Federal investments, targeted incentives, private sector efforts from industry and philanthropy, patient engagement initiatives, and other mechanisms to support cancer research and enable progress in treatment and care.

Investments to Launch the Next Phase of Cancer Research

The Administration is launching the National Cancer Moonshot with a $1 billion initiative to provide the funding necessary for researchers to accelerate the development of new cancer detection and treatments, including:

- The Moonshot initiative will begin immediately with $195 million in new cancer activities at the National Institutes of Health (NIH) in Fiscal Year 2016.
- The Fiscal Year 2017 Budget will propose to continue this initiative with $755 million in mandatory funds for new cancer-related research activities at both NIH and the Food and Drug Administration.
- The Departments of Defense and the Veterans Affairs are increasing their investments in cancer research, including through funding Centers of Excellence focused on specific cancers, and conducting large longitudinal studies to help determine risk factors and enhance treatment.

Within the Department of Health and Human Services (HHS), these investments will support cutting edge research opportunities such as:

- **Prevention and Cancer Vaccine Development:** Cancers caused by viruses can often be prevented by vaccinating people before they become infected, as demonstrated by the vaccine for cervical cancer and other cancers caused by human papilloma virus (HPV). Unique or signature genetic changes in cancers may also be targeted by cancer vaccines. We will speed the development, evaluation, and optimization of safe cancer vaccines targeting unique features of individual cancers.

- **Early Cancer Detection:** Recent advances in genomic and proteomic technologies have greatly increased the sensitivity of methods to detect markers of cancer – raising the possibility of using such methods for screening and early detection of cancer. NIH will invest in the development and evaluation of minimally invasive screening assays to enable more sensitive diagnostic tests for cancer.

- **Cancer Immunotherapy and Combination Therapy**: This initiative will work to extend the early successes of immunotherapy for cancer treatment to virtually all solid tumors by harnessing the power of the body's immune system by supporting basic research to increase understanding of how the immune system can be used to modify cancer cells and their activities. In addition, the initiative aims to develop and test new combination therapies. Working with health care providers in the community, as well as through existing clinical trials networks, new approaches to prevent and treat cancer will be tested more quickly and efficiently, with special emphasis made to include under-represented populations. This outreach would also include concerted efforts to narrow cancer health disparity gaps by increasing utilization of standard of care recommendations for cancer prevention, screening, and treatment.

- **Genomic Analysis of Tumor and Surrounding Cells:** A greater understanding of the genetic changes that occur within the cancer cell, and in surrounding and immune cells responding to the cancer, will advance both immunotherapy and targeted drug therapy and help lead to an increased ability to enhance patient response to therapy.

- **Enhanced Data Sharing**: Data sharing can break down barriers between institutions, including those in the public and private sectors, to enable maximum knowledge gained and patients helped. The cancer initiative will encourage data sharing and support the development of new tools to leverage knowledge about genomic abnormalities, as well as the response to treatment and long-term outcomes.

- **Oncology Center of Excellence:** The FDA will develop a virtual Oncology Center of Excellence to leverage the combined skills of regulatory scientists and reviewers with expertise in drugs, biologics, and devices. This center will expedite the development of novel combination products and support an integrated approach in:
  - evaluating products for the prevention, screening, diagnosis, and treatment of cancer;
  - supporting the continued development of companion diagnostic tests, and the use of combinations of drugs, biologics and devices to treat cancer; and
  - developing and promoting the use of methods created through the science of precision medicine.

- **Pediatric Cancer**: New technology to develop drug libraries and screens for inhibitors against a wide variety of targets will find new therapies, which will be of particular benefit for pediatric populations. The initiative will intensify efforts to collect and analyze tumor specimens from the rarest childhood cancers, enlisting participation from the pediatric oncology community. Clinical data about course of disease and response to therapy will also be included to enable the research community to develop new approaches to treat childhood cancers.

- **Vice President's Exceptional Opportunities in Cancer Research Fund**: To launch the National Cancer Moonshot, scientists, cancer physicians, advocates, philanthropic organizations, and representatives of the biotechnology and pharmaceutical industry will need to work together to focus on major new innovations in the understanding of and treatment for cancer. The work that the Vice President will be undertaking will ensure just that - bringing together all parties, breaking down silos, and sharing data to generate new ideas and new breakthroughs. This proposed new fund will be focused on high-risk, high-return research identified by the collaborative work and new ideas stimulated by the research community as part of this work.

The National Cancer Moonshot requires a whole-of-government approach, marshalling resources from across the Federal government to address this singular goal. Over time, other agencies will make new investments in this effort, beginning with the Departments of Defense (DOD) and Veterans Affairs (VA).

DOD provides tens of millions of dollars annually to support a wide range of cancer research initiatives and continues to increase this work. Most notably, DoD funds three Cancer Centers of Excellence, which focus on Breast, Prostate, and Gynecological cancers, enabling cutting edge treatment and research on cancers in our warfighter and other beneficiaries. The world-class Murtha Cancer Treatment Center at the Walter Reed National Military Medical Center, with support from NCI, provides a multidisciplinary approach to offer the highest standards of care for treating cancer diseases. In addition, DOD, through Congressional Special Initiative funding and groundbreaking peer-reviewed research, is investing hundreds of millions of dollars in strengthening understanding, prevention, detection, and treatment of several of the most prevalent and impactful forms of cancer, as well as less common types of cancer associated with exposure to hazardous materials that some of our service members may encounter while on duty.

The VA cancer research portfolio includes close to 250 projects, including 170 clinical studies at VA facilities nationwide. Projects are targeted towards understanding and preventing cancers prevalent in the veteran population, in addition to broader research on veteran populations and disease prevalence. Specific topics being investigated range from the basic biology and genetic underpinning in laboratory based research to large definitive clinical trials of treatments and approaches to advance care. VA's Million Veteran Program, with over 445,000 enrolled veterans, 32 percent of whom have reported a cancer diagnosis, provides a potential rich clinical database for genetic exploration and analyses. This resource will be valuable in investigating genetic contributions to specific cancers and gene targets for potential new treatments. VA's National Radiation Oncology Program (NROP) is conducting multiple initiatives in cancer research, and its Precision Oncology Program initiative is paving the way for incorporating the results of genetic diagnostic testing to customize medical decision making and treatment for individual patients with cancer.

Way Forward

Together, these investments represent an initial down-payment on the National Cancer Moonshot. Over the coming months, the Administration looks forward to working with Congress to launch the next phase of investments, providing the resources needed to double our rate of progress in this historic fight. As the Vice President has said, the Administration will do everything it can to support research and enable progress while calling on the families, researchers, and physicians across the country to join this effort and confront this challenge.

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