

Prevention as a Priority of the National Cancer Moonshot Initiative

Cancer is responsible for one in every four deaths in the United States, roughly 1,630 per day.⁶⁶⁵ In addition, around 14.5 million Americans have a history of cancer⁶⁶⁶ — roughly equivalent to the populations of New York City, Houston and Los Angeles combined.⁶⁶⁷ In 2016, more than 1.6 million more Americans are expected to be diagnosed with cancer.⁶⁶⁸

By 2025, the number of new annual cancer diagnoses is predicted to grow by 31 percent and cancer deaths are expected to grow by 37 percent.⁶⁶⁹ By 2020 medical expenditures related to cancer are expected to increase 27 percent to approximately \$158 billion a year.⁶⁷⁰

According to researchers, however, a majority of cancer cases could be prevented. For instance, this year, cigarette smoking will be responsible for nearly one-third of all cancer deaths.⁶⁷¹ One in five cancer deaths will be attributable to other health behaviors such as physical inactivity, excess alcohol consumption and/or poor nutrition.⁶⁷² Cancer prevention initiatives such as targeted behavior changes, screenings or vaccinations serve as a key component for reducing cancer rates and mortality.⁶⁷³



Estimated numbers of new cancer cases for 2016, excluding basal cell and squamous cell skin cancers and in situ carcinomas except urinary bladder. Estimates are not available for Puerto Rico.
Note: State estimates are offered as a rough guide and should be interpreted with caution. State estimates may not add to US total due to rounding.

Source: American Cancer Society⁶⁶⁴

For example, by 2030, obesity is expected to lead to an additional 500,000 cases of cancer in the United States.^{674, 675} A one percent decrease in individual BMI among all American adults, however, would prevent about 100,000 new cases of cancer.^{676, 677}

Preventive measures can drastically help lessen the health and economic burden of cancers. Reducing risk factors for colorectal cancer, such as by reducing smoking, obesity and red-meat consumption, could contribute \$12.4 billion in savings by 2020.⁶⁷⁸

In 2016, President Obama announced a \$1 billion initiative to eliminate cancer known as the National Moonshot Initiative. Headed by Vice President Joe Biden, the Cancer Moonshot Task Force examines mechanisms to support cancer research and enable progress in treatment that makes the most of federal dollars.⁶⁷⁹ While much of the Moonshot effort is focused on cures and treatment, an increased emphasis on prevention would provide a cost-effective, evidence-based means for advancing the Task Force's goals.

RECOMMENDATIONS

- **Support investments in tobacco prevention and cessation.** Tobacco is responsible for nearly one-third of all cancer deaths.⁶⁸⁰ To achieve significant progress, an initiative to reduce cancer must include increased investment in tobacco control. More funding and research resources should be devoted to reducing disparities in tobacco use and identifying and implementing innovative local, state, federal and private sector policy approaches to tobacco control.⁶⁸¹
- **Support investments in interventions that work to increase physical activity, improve nutrition and prevent obesity.** Given the high impact that increasing physical activity and good nutrition can have on preventing or reducing the risk for a number of types of cancer, there should be a high and deliberate priority placed on developing programs that address these factors explicitly.
- **Expand research and development of additional interventions to address environmental and behavioral factors related to the major noncommunicable diseases including cancer, cardiovascular diseases and diabetes.** In addition to obesity and tobacco related prevention programs and policies, there should be an increased investment in additional research into strategies to address the relationship between cancer risk and key health behaviors and environmental exposures. The Moonshot Task Force should dedicate resources to reviewing the existing literature and developing new strategies for addressing these determinants of cancer through policy, system and environmental changes.
- **Invest in research and interventions addressing health, disease and mortality disparities among population groups.** Additional funding is needed to ensure preventive cancer initiatives are implemented within populations with the highest documented disparities. National Moonshot priorities should include increased funding for interventions already rooted in the evidence-base, such as preventive screenings, as well as funding for intensified research specifically related to exploring causes of existing cancer disparities.
- **Improve existing preventive vaccination initiatives through provision of communication strategies for providers.** While research strongly supports HPV vaccines' effectiveness in reducing the roughly 39,000 annual HPV-associated cancer cases,⁶⁸² vaccination rates remain low, with only about 40 percent of adolescent girls and 30 percent of adolescent boys receiving all doses.⁶⁸³ Missed clinical opportunities to discuss and recommend the HPV vaccine serve as a driving force for low vaccination.⁶⁸⁴ As a part of its prevention efforts, the National Moonshot Initiative should develop, test and disseminate comprehensive communication strategies for providers to encourage HPV vaccination for all adolescents.

Endnotes

- 664 American Cancer Society. Cancer Facts & Figures 2016. Atlanta: American Cancer Society; 2016. <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf> (accessed July 2016).
- 665 Ibid.
- 666 Ibid.
- 667 United States Census Bureau. 1 Million Milestone. United States Census Bureau. 2014. http://www.census.gov/content/dam/Census/newsroom/releases/2015/cb15-89_graphic.jpg (accessed July 2016).
- 668 American Cancer Society. Cancer Facts & Figures 2016. Atlanta: American Cancer Society; 2016. <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf> (accessed July 2016).
- 669 National Cancer Institute. Prevention. Bethesda, MD: National Cancer Institute, 2015. <http://www.cancer.gov/research/areas/prevention> (accessed July 2016).
- 670 Mariotto AB, Yabroff KR, Shao Y, Feuer EJ, and Brown ML. Projections of the Cost of Cancer Care in the United States: 2010-2020. Jan 19, 2011, *JNCI*, Vol. 103, No. 2.
- 671 American Cancer Society. Cancer Facts & Figures 2016. Atlanta: American Cancer Society; 2016. <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf> (accessed July 2016). Ibid.
- 672 Ibid.
- 673 Ibid.
- 674 National Cancer Institute. Obesity and Cancer Risk. Bethesda, MD: National Cancer Institute, 2012. <http://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/obesity-fact-sheet> (accessed July 2016).
- 675 Wang YC, McPherson K, Marsh T, et al. Health and economic burden of the projected obesity trends in the USA and the UK. *The Lancet*. 2011 Sep 2;378(9793):815-25. National Cancer Institute. Obesity and Cancer Risk. Bethesda, MD: National Cancer Institute, 2012. <http://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/obesity-fact-sheet> (accessed July 2016).
- 676 National Cancer Institute. Obesity and Cancer Risk. Bethesda, MD: National Cancer Institute, 2012. <http://www.cancer.gov/about-cancer/causes-prevention/risk/obesity/obesity-fact-sheet> (accessed July 2016). Ibid
- 677 Wang YC, McPherson K, Marsh T, et al. Health and economic burden of the projected obesity trends in the USA and the UK. *The Lancet*. 2011 Sep 2;378(9793):815-25. Ibid
- 678 Bradley CJ, Lansdorp-Vogelaar I, Yabroff KR, et al. Productivity Savings from Colorectal Cancer Prevention and Control Strategies. *American Journal of Preventive Medicine* 41, (2): e5-e14, 2011.
- 679 The White House. "Fact Sheet: Investing in the National Cancer Moonshot." 2016. <https://www.whitehouse.gov/the-press-office/2016/02/01/fact-sheet-investing-national-cancer-moonshot> (accessed September 2016).
- 680 American Cancer Society. Cancer Facts & Figures 2016. Atlanta: American Cancer Society; 2016. <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf> (accessed July 2016).
- 681 Dobbins D and Ossip D. Society for Research on Nicotine and Tobacco and Truth Initiative, 2016. http://truthinitiative.org/sites/default/files/NIH%20RFI%20Cancer%20Moonshot%20FINAL_07.01.16.pdf (accessed July 2016).
- 682 Viens LJ, Henley SJ, Watson M, et al. Human papillomavirus-associated cancers—United States, 2008–2012. *MMWR Morb Mortal Wkly Rep*, 65(26):661–666, 2016.
- 683 Reagan-Steiner S, Yankey D, Jeyarajah J, et al. National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2015. *MMWR Morb Mortal Wkly Rep*, 65:850–858, 2016. The Henry J. Kaiser Family Foundation. The HPV Vaccine: Access and Use in the U.S. The Henry J. Kaiser Family Foundation, 2015. <http://kff.org/womens-health-policy/fact-sheet/the-hpv-vaccine-access-and-use-in/> (accessed July 2016).
- 684 National Cancer Institute. Accelerating HPV Vaccine Uptake: Urgency for Action to Prevent Cancer. Bethesda, MD. National Cancer Institute, 2013. <http://deainfo.nci.nih.gov/advisory/pcp/annualReports/HPV/Part3Goal1.htm#sthash.pPIZpUYL.dpbs> (accessed September 2016).