

Study outlines opportunities to achieve Cancer Moonshot goal of reducing cancer death rates

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To achieve the Cancer Moonshot goal, cancer death rates must decline faster.
Credit: Shiels M, et al. *Cancer Discovery*, 2023

Researchers from the National Institutes of Health (NIH) have outlined opportunities for achieving President Biden and First Lady Biden's Cancer Moonshot national goal of reducing the cancer death rate by at least 50% over the next 25 years. A study published April 17 in *Cancer Discovery*, led by researchers at the National Cancer Institute (NCI), part of NIH, has concluded that achieving this goal will require increased access to and use of interventions known to prevent common causes of cancer death.

"Achieving a 50% reduction in cancer mortality in 25 years will be impossible without addressing cancer health equity," said Monica M. Bertagnolli, M.D., director of NCI, who co-authored an accompanying commentary. "For several of the strategies highlighted in this study, improving access is critical."

The opportunities outlined in the study include further reducing the prevalence of cigarette smoking and use of other tobacco products, increasing the use of colonoscopy for prevention and early detection of colorectal cancer, increasing the use of hormone therapy to prevent and treat breast cancer, and increasing detection and treatment of hepatitis B and hepatitis C viral infections to reduce the risk of liver cancer. Additionally, new strategies are needed to reduce deaths from prostate, liver, pancreatic, and other cancers, as well as to address inequities in access to all these interventions.

"There are a lot of tools that we know have reduced cancer [death](#) rates substantially for specific cancers, and if those are used more broadly, with greater access, we feel that this ambitious goal might be achievable," said Meredith Shiels, Ph.D., of NCI's Division of Cancer Epidemiology and Genetics, who led the study.

"Continued innovation is also really important," noted co-investigator Neal D. Freedman, Ph.D., also of the Division of Cancer Epidemiology

and Genetics. "If there are new blockbuster drugs for common cancers, for example, or really great new screening tests, or a combination of those things, that would do a lot toward reducing cancer mortality."

The study focused on opportunities for lung, colorectal, pancreatic, breast, prostate, and liver cancers because these together contribute the largest number of cancer deaths in the United States. However, the researchers pointed out that it's also important to prevent deaths from other cancers, including rare tumors and pediatric cancers.

In their projections, the researchers showed that, if the most recent trend in deaths from all cancers combined continues, the overall age-adjusted cancer death rate is estimated to decrease 44% by 2047, falling short of the 50% improvement in [cancer mortality](#) rate goal. Cancer death rates would need to decline more rapidly—by an average of 2.7% per year versus the current rate of 2.3% per year—to achieve a 50% reduction by 2047.

The study was conducted by researchers in NCI's Division of Cancer Epidemiology and Genetics, the Center for Cancer Research, and their collaborators, using data from NCI's Surveillance, Epidemiology, and End Results (SEER) Program and the Centers for Disease Control and Prevention's National Center for Health Statistics.

The researchers examined trends in age-standardized cancer incidence, survival, and mortality rates from 2000 to 2019 for all cancers combined, as well as for the six cancers that together account for 57% of cancer deaths: lung, colorectal, pancreatic, breast, prostate, and liver. They then projected the overall cancer death rate in 2047 based on the assumption that current trends would continue.

According to their analysis, because of decreasing cancer incidence and improvements in survival, age-adjusted death rates from all cancers

combined declined by 1.4% per year from 2000 to 2015 and by 2.3% per year from 2016 to 2019. These declines reflect substantial reductions in deaths from lung cancer (-4.7% per year during 2014–2019), as well as colorectal cancer (-2.0% per year during 2010–2019) and [breast cancer](#) (-1.2% per year during 2013–2019).

Trends in prostate, pancreatic, and liver cancer death rates have been less promising. Death rates from prostate cancer had declined strongly (-3.4% per year during 2000–2013), but the decline has slowed (to -0.6% per year during 2013–2019). Death rates from pancreatic cancer have been increasing (0.2% per year during 2006–2019).

Death rates from liver cancer, which had been increasing for decades, recently began to decline (-0.5% per year during 2016–2019). Death rates from all other cancer types combined have declined (-1.7% per year during 2016–2019).

The publication of this study coincides with the release of the National Cancer Plan, a long-term, ambitious framework developed to support a national response to achieving the goals of the Cancer Moonshot, which was first launched in 2016 by then-Vice President Joe Biden to accelerate progress against cancer. Last year, President Biden and First Lady Jill Biden reignited the Cancer Moonshot, with bold new goals to reduce the age-adjusted cancer death rate by at least 50% over the next 25 years and improve the experience of people and their families living with and surviving cancer.

More information: Meredith S. Shiels et al, Opportunities for Achieving the Cancer Moonshot Goal of a 50% Reduction in Cancer Mortality by 2047, *Cancer Discovery* (2023). [DOI: 10.1158/2159-8290.CD-23-0208](https://doi.org/10.1158/2159-8290.CD-23-0208)

Monica M. Bertagnolli et al, Achieving the Goals of the Cancer

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