

Public health researchers: More than half of all cancer is preventable

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More than half of all cancer is preventable, and society has the knowledge to act on this information today, according to Washington University public health researchers at the Siteman Cancer Center in St. Louis.

In a review article published in [Science Translational Medicine](#) March 28, the [investigators](#) outline obstacles they say stand in the way of making a huge dent in the [cancer](#) burden in the [United States](#) and around the world.

"We actually have an enormous amount of data about the causes and preventability of cancer," says [epidemiologist](#) Graham A. Colditz, MD, DrPH, the Niess-Gain Professor at the School of Medicine and associate director of [prevention](#) and control at the Siteman Cancer Center. "It's time we made an investment in implementing what we know."

What we know, according to Colditz and his co-authors, is that [lifestyle choices](#) people make and that society can influence in a number of ways — from tobacco use to diet and exercise — play a significant role in causing cancer. Specifically, the researchers cite data demonstrating that smoking alone is responsible for a third of all cancer cases in the United States. Excess body weight and obesity account for another 20 percent.

But beyond individual habits, they argue that the structure of society itself — from medical research funding to building design and food subsidies — influences the extent of the cancer burden and can be

changed to reduce it.

The obstacles they see to implementing broad cancer prevention strategies are:

Skepticism that cancer can be prevented. Smoking rates in different states demonstrate that 75 percent of lung cancer in the United States could be prevented with elimination of cigarette smoking.

The short-term focus of cancer research. Benefits of prevention may be underestimated because they take decades to show up, and research funding often spans five years or less.

Intervening too late in life to prevent cancer. Strategies like vaccination against cancer-causing viruses, such as the human papilloma virus that causes cervical cancer, work best when begun early, in this case before young people begin sexual activity.

Research focuses on treatment, not prevention. Treatments focus only on a single organ after diagnosis but behavioral changes reduce cancer and death rates from many chronic diseases.

Debate among scientists. They say health experts have a moral responsibility to highlight cancer risk factors even without knowing the biological mechanism by which they cause cancer.

Societal factors that affect health. Tobacco policy and government subsidies don't do enough to discourage unhealthy behavior, and in some cases they make the unhealthy options more accessible, especially in low-income communities.

Lack of collaboration across disciplines. Scientists and health experts must work together to learn what causes cancer, communicate that to the

public and work with community leaders to implement policies that help people lead healthier lives, they say.

The complexity of implementing broad changes. With so many players involved, from health-care providers to government regulators to individuals, it will be difficult to implement broad change over the long term.

According to the American Cancer Society, an estimated 1,638,910 new cancer cases will be diagnosed this year in the United States. Also this year, 577,190 Americans are expected to die of cancer. Only heart disease kills more people in this country. And Colditz's research has shown that these cancer prevention strategies would reduce the burden of heart disease and other chronic conditions as well.

Despite the obstacles, Colditz and his colleagues point to some successes that they say demonstrate that broad change is possible. One example is the relatively quick elimination of unhealthy trans fats from the national diet. And the National Cancer Institute (NCI) has reported that lung cancer rates are declining in both men and women, supporting the benefits of tighter tobacco control policy.

"After working in public health for 25 years, I've learned that if we want to change health, we need to change policy," says co-author Sarah J. Gehlert, PhD, the E. Desmond Lee Professor of Racial and Ethnic Diversity at the Brown School of Social Work and the School of Medicine. "Stricter tobacco policy is a good example. But we can't make policy change on our own. We can tell the story, but it requires a critical mass of people to talk more forcefully about the need for change."

More information: Colditz GA, Wolin KY, Gehlert S. Applying what we know to accelerate cancer prevention. *Science Translational Medicine*. March 28, 2012.

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