Alcohol is a Leading Cause of Cancer, But Will the Public Heed a New Warning?

CU Cancer Center members and an alcohol use disorder specialist react to the U.S. surgeon general's labeling proposal.

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A call by the U.S. surgeon general for a new warning about alcohol's links to cancer is the latest effort to raise awareness about a health issue that many Americans aren't aware of.

Two University of Colorado Cancer Center members and a CU Department of Medicine physician who treats patients with alcohol use disorder say evidence shows that drinking alcohol is a notable risk factor for several cancers, but it remains to be seen whether the proposed warning on alcohol packaging will be enough to change public behavior.

U.S. Surgeon General Vivek Murthy, MD, MBA, issued an advisory report on January 3 in which he proposed that the existing health warning printed on alcoholic beverages be expanded to include language about the risk of cancer associated with alcohol consumption.

A preventable cause

The existing warning, which has remained unchanged since 1988, says that "women should not drink alcoholic beverages during pregnancy because of the risk of birth defects," and that "consumption of alcoholic beverages impairs your ability to drive a car or operate machinery, and may cause health problems."

The current statement does not mention cancer. Murthy said the expanded warning label should be "more visible, prominent, and effective in increasing awareness about cancer risks associated with alcohol consumption," but he did not propose specific wording. It would take an act of Congress to revise the warning.

Murthy's advisory offers a review of evidence for a causal link between alcohol consumption and increased risk for at least seven different types of cancer, including breast (in women), colorectum, esophageal, mouth, larynx, throat, and liver.

“Alcohol is a well-established, preventable cause of cancer responsible for about 100,000 cases of cancer and 20,000 cancer deaths annually in the United States – greater than the 13,500 alcohol-associated traffic crash fatalities per year in the U.S. – yet the majority of Americans are unaware of this risk,” Murthy said in a written statement accompanying the advisory.

Breast cancer a focus

Murthy’s advisory says that “the largest burden of alcohol-related cancer in the U.S. is for breast cancer in women with an estimated 44,180 cases in 2019, representing 16.4% of the approximately 270,000 total breast cancer cases for women.”

CU Cancer Center member Marie Wood, MD, a professor in the CU Division of Medical Oncology who specializes in breast cancer, says, “The evidence is clear regarding a link between moderate and even low levels of alcohol use and breast cancer risk. The more you drink, the more risk you have.”

Wood noted data cited in the advisory indicating that lifetime breast cancer risk is about 11% for women who have less than one alcoholic beverage a week, 13.1% (a 5% increase) for those who have a daily drink, and 15.3% for those who have two drinks a day.

“The question is, what is the mechanism for this?” Wood says. “There are a number of potential mechanisms, one having to do with alcohol’s impact on estrogen levels, and another having to do with inflammation.”

Wood says that awareness is growing in the medical community about alcohol’s role in cancer risk, but “the general population is much less aware of these risks.” Data cited in the surgeon general’s advisory indicates that while 89% of American adults know tobacco increases cancer risk, only 45% know alcohol boosts cancer risk.

What sort of warning?

If the surgeon general’s call for cancer warnings on alcohol is carried out, a key question is how strong the new messages will be. For that, tobacco warnings may provide some precedents.

Tobacco is a cancer-causing product with an even longer history of warning labels than alcohol, dating back to 1966 on cigarette packages in the U.S. Those warnings have become more dire and specific over time.

Gina Kruse, MD, another CU Cancer Center member and an associate professor in the CU Division of General Internal Medicine, focuses her research on smoking-cessation strategies. She says that the early warnings on cigarette packs were vague, saying only that smoking “may be hazardous to your health.”

“They found that the warnings weren’t working well over time, and so more specific labeling was recommended,” Kruse says. Later labels used emphatic wording such as “Smoking causes lung cancer.”

In the years since cigarette warning labels have been in place, U.S. smoking rates have gradually declined from 42.4% in 1965 to 11.6% in 2022, according to the American Lung Association. Kruse says that while it’s hard to measure the impact of warning labels alone, “messages that are specific generally are more effective at grabbing people’s attention to convey information.”

Plans to add vivid images to cigarette packages showing people suffering from smoking’s health impacts have been held up for years in the U.S. by legal challenges from tobacco companies. Those images currently are scheduled to appear in early 2026, the U.S. Food & Drug Administration says.

Kruse says that more than 120 nations already require graphic images on tobacco warnings. “There is data to show that pictorial warnings are more effective,” she says. And she notes that some nations have tried other approaches with tobacco, like adding educational inserts to packages.

In any event, based on decades of experience with cigarette warnings, “the language of the alcohol warning is going to be very important. Saying ‘this causes cancer’ rather than ‘this may cause harms to your health’ will have a different impact on people.”

Complex reactions

While the type of warning that would be most effective in reaching alcohol users is open to debate, there’s little disagreement that alcohol is an established risk factor for several cancers, and that risk increases with consumption, says Eden Bernstein, MD, an assistant professor in the CU Division of Hospital Medicine with a research and clinical interest in alcohol use disorder.

“There’s strong evidence that alcohol use is linked causally with the development of several cancers – breast cancer and several others,” Bernstein says. In general, he adds, “the risk is proportional to the amount of alcohol someone drinks. This includes the number of drinks per day, and also the number of days or years of consumption.”

On the other hand, he says, “there’s some evidence to suggest that for people who have a high amount of alcohol consumption, cutting back can reduce the risk of developing cancer in the future.”

In his dealings with patients who drink, Bernstein says that reactions to warnings about health impacts can be complex.

“In the group of people who drink just above the traditional recommended limits of one drink a day for women and two drinks a day for men, there’s a wide range of responses,” he says. “Some

people think, ‘If there’s even a small chance that I’m going to get cancer from what I drink, I’d rather not take that risk and I’m going to drink less.’ And for other people, the perceived social benefits of drinking might outweigh the benefits of cutting back. However, most people aren’t aware of the cancer risks associated with alcohol and aren’t able to make an informed decision, so there’s a knowledge gap that needs to be bridged.”

In addition to changes in official warnings about alcohol and cancer, Wood says clinicians have an important role to play in their dealings with patients.

“Moderation is really, really important,” she says. “We, as physicians, should be a bit more aggressive about suggesting this.”

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