



Consumer Federation of America

State and Local Public Policy Options for Raising Awareness of Alcohol Cancer Risk

Thomas Gremillion
Director of Food Policy

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Executive Summary

Cancers attributable to drinking alcohol pose a severe public health burden, yet most consumers are not aware of the link between alcohol and cancer. This combination of high harm and low awareness presents policymakers with the rare opportunity to significantly improve public health by simply providing information to consumers. Cancer warning statements on alcoholic beverage labels, on alcohol advertising, and on signage at point-of-sale represent three low-cost options for doing so. This article explores the benefits and disadvantages of the three options, focusing in particular on the latter two, in which state and local governments have the potential to lead. Raising awareness of alcohol cancer risk may help to reverse trends towards higher levels of alcohol consumption and abuse, and even where raising awareness does not affect an individual’s drinking behavior, it may nevertheless foster support for other public policies that reduce harms associated with excessive alcohol use.

I. Why alcohol cancer risk?

Most consumers know that drinking too much alcohol is bad for your health. Currently, alcoholic beverage labels in the U.S. warn consumers that drinking “may cause health problems.” Why is it necessary to draw attention to alcohol cancer risk in particular? As already alluded to, the

combination of high harm and low awareness of alcohol cancer risk provide substantial justification. Popular misperceptions of the health effects associated with drinking small amounts of alcohol offer additional support. Finally, good evidence suggests that raising awareness of alcohol cancer risk will reduce other harms associated with excessive drinking.

I.A. The public health burden of alcohol-attributable cancers is significant.

Cancer now causes a similar number of deaths as heart disease in the United States.¹ Alcohol consumption represents the third leading modifiable cancer risk factor, after cigarette smoking and excess body weight—ahead of factors including UV radiation exposure, processed meat consumption, and human papillomavirus (HPV) infection.² Researchers estimate that, between 2013 and 2016, alcohol use accounted for 75,199 cancer cases and 18,947 cancer deaths annually in the United States each year.³ An estimated 26-35% of those deaths were associated with “moderate” consumption, defined as less than 1.5 drinks (20g) per day on average.⁴

Alcohol causes cancer via several mechanistic pathways. When the body metabolizes alcohol, it produces acetaldehyde, itself a carcinogen that degrades DNA and inhibits DNA methylation. Alcohol induces oxidative stress, increases inflammation, disrupts folate absorption, and reduces immune system function, all of which contribute to carcinogenesis. Alcohol may increase female breast cancer risk in particular by interfering with oestrogen pathways. By acting as a solvent, alcohol appears to aid other carcinogens, such as tobacco smoke, in penetrating cells, particularly in the upper aerodigestive tract.⁵ Experimental evidence in support of these pathways, along with robust epidemiological evidence, led the World Health Organization’s International Agency for Research on Cancer (IARC) to officially designate alcohol a Class I carcinogen in 1987.⁶ Today, according to the National Cancer Institute, “there is a strong scientific consensus that alcohol drinking can cause several types of cancer.”⁷

¹ Xu JQ, Murphy SL, Kochanek KD, Arias E. Mortality in the United States, 2021. NCHS Data Brief, no 456. Hyattsville, MD: National Center for Health Statistics. 2022. DOI: <https://dx.doi.org/10.15620/cdc:122516>. The top three causes of death in 2021 were heart disease (695,547), cancer (605,213) and COVID-19 (416,893).

² Farhad Islami et al., *Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States*, 68 CA CANCER J. CLIN. 31, 36 (2018), <https://doi.org/10.3322/caac.21440>.

³ Ann Goding Sauer, Stacey A. Fedewa, Priti Bandi, Adair K. Minihan, Michal Stoklosa, Jeffrey Drope, Susan M. Gapstur, Ahmedin Jemal, Farhad Islami, Proportion of cancer cases and deaths attributable to alcohol consumption by US state, 2013-2016, *Cancer Epidemiology*, Volume 71, Part A, 2021, 101893, ISSN 1877-7821, <https://doi.org/10.1016/j.canep.2021.101893>.

⁴ Nelson DE, Jarman DW, Rehm J, et al. Alcohol-attributable cancer deaths and years of potential life lost in the United States. *Am J Public Health*. 2013;103(4):641-648. doi:10.2105/AJPH.2012.301199.

⁵ Runggay H, Murphy N, Ferrari P, Soerjomataram I. Alcohol and Cancer: Epidemiology and Biological Mechanisms. *Nutrients*. 2021 Sep 11;13(9):3173. doi: 10.3390/nu13093173. PMID: 34579050; PMCID: PMC8470184.

⁶ *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Alcohol Drinking*, World Health Organization International Agency for Research on Cancer, <https://monographs.iarc.fr/wp-content/uploads/2018/06/mono44.pdf>.

⁷ *Alcohol and Cancer Risk*, NAT’L CANCER INST., <https://www.cancer.gov/about-cancer/causes-prevention/risk/alcohol/alcohol-fact-sheet>

I.B. Consumer awareness of alcohol cancer risk is low.

Providing information about alcohol and cancer risk will have a significant impact on consumer behavior precisely because most consumers lack an accurate understanding of the relationship between alcohol consumption and cancer. An abundance of survey data captures the confusion around alcohol cancer risk. Between 2001 and 2019, the American Institute for Cancer Research commissioned a survey that asked over a thousand respondents, among other questions, “Do you believe alcohol has a significant effect on whether or not the average person develops cancer?” Response rates ranged as low as 33% (2005) and as high as 46% (2009). By contrast, a majority of U.S. adults responding to a similar prompt correctly identified tobacco (89%) and excessive exposure to sunlight (82%) as cancer risks in the most recent survey.⁸

The National Cancer Institute’s Health Information National Trends Survey (HINTS) offers similar results.⁹ In 2017, the HINTS survey began including the question: “Which of the following health conditions do you think can result from drinking too much alcohol?” with “cancer” among the options respondents could choose. Of 3,281 U.S. adults, just 35.7% answered that “yes” cancer can result from drinking too much alcohol.¹⁰ In 2019, an even smaller fraction—31.9% of 5,436 respondents—answered “yes.” By contrast, 89.5% of respondents in 2019 responded that “yes” drinking too much can cause liver disease. The 2020 HINTS survey modified the question slightly to read: “In your opinion, how much does drinking beer [or “wine,” or “liquor”] affect the risk of getting cancer?” Responses from 3,865 adults indicated that just 20.3%, 24.9%, and 31.2% of Americans were aware that wine, beer, and liquor, respectively, increased cancer risk “a little” or “a lot.” Ten percent of respondents indicated (incorrectly) that drinking wine decreases the risk of getting cancer.¹¹

Increased breast cancer risk from alcohol consumption—even from “light” or “moderate” drinking—is particularly well-established, yet survey data indicates that most women are not aware of the link. Responses from 10,940 women aged 15-44 years participating in the National Survey of Family Growth (NSFG) showed that 88% recognized that a family history of breast cancer increases an individual’s risk for breast cancer. But in response to the question: “Do you think that drinking alcoholic beverages increases a woman’s chances of getting breast cancer a lot, a little, or not at all or do you have no opinion?”, just 24.6%% answered ‘a lot’ or ‘a little.’ A slightly larger number of respondents (27.4%) had “no opinion,” suggesting that a large segment of the population may be receptive to messaging about alcohol cancer risk.¹²

Even among groups with heightened cancer risk in the United States, awareness of alcohol’s dangers is limited. A 2015 study of 593 survivors of colorectal cancer—a cancer for which alcohol is

⁸ American Institute for Cancer Research. “2019 AICR Cancer Risk Awareness Survey,” *available at*: <https://www.aicr.org/assets/can-prevent/docs/2019-Survey.pdf>

⁹ See Kara P. Wiseman; William M.P. Klein, “Evaluating Correlates of Awareness of the Association between Drinking Too Much Alcohol and Cancer Risk in the United States.” *Cancer Epidemiol Biomarkers Prev* (2019) 28 (7): 1195–1201. <https://doi.org/10.1158/1055-9965.EPI-18-1010>

¹⁰ National Cancer Institute. Health Information National Trends Survey *available at*: https://hints.cancer.gov/view-questions-topics/question-details.aspx?PK_Cycle=12&qid=1678

¹¹ *Id.*; see also Seidenberg AB, Wiseman KP, Eck RH, Blake KD, Platter HN, Klein WMP. Awareness of alcohol as a carcinogen and support for alcohol control policies. *Am J Prev Med* 2022; 62: 174-82.

¹² Jaya S. Khushalani, Jin Qin, Donatus U. Ekwueme, Arica White. “Awareness of breast cancer risk related to a positive family history and alcohol consumption among women aged 15–44 years in United States,” *Preventive Medicine Reports*, Vol. 17, 2020, 101029, ISSN 2211-3355, <https://doi.org/10.1016/j.pmedr.2019.101029>.

an established risk factor¹³—found that “15% had never heard of recommendations to limit alcohol,” and 11 percent were only “slightly familiar” with those recommendations. The researchers also found that “survivors received less social support for limiting alcohol than for healthy eating and less than half of survivors recalled medical providers discussing alcohol consumption with them.”¹⁴ This neglect may reflect the physicians’ own ignorance. A 2017 statement on alcohol and cancer from the American Society of Clinical Oncology notes that “[l]ow physician knowledge of alcohol use and cancer risk is another barrier to addressing alcohol use with patients,” citing studies demonstrating a “lack of knowledge” among general practitioners, medical students, dentists and dental hygienists.¹⁵

I.C. The cancer risk associated with moderate drinking is significant and outweighs the health benefits associated with drinking for many consumers.

Again, cancer aside, most consumers know that drinking too much is bad for your health. But moderate drinking is popularly perceived as a healthy behavior. Therefore, the cancer risk associated with low levels of alcohol consumption, and how it compares with potential health benefits from alcohol, deserves careful examination. Increased cancer risks from moderate drinking especially reinforces the need to raise awareness.

Researchers have tied various cancers to “light” and “moderate” drinking, usually defined as up to one and up to two drinks per day, respectively.¹⁶ A 2017 Surgeon General’s report notes that “[f]or breast cancer, studies have shown that even moderate drinking may increase the risk.”¹⁷ More specifically, researchers estimate that every 10 grams of ethanol consumed per day result in a five percent increase in premenopausal breast cancer risk, and an almost 10 percent risk increase for postmenopausal women.¹⁸ Recent studies also revealed that “light” drinking is associated with an increased risk of cancer of the oral cavity, pharynx, and esophagus.¹⁹ This increased cancer risk has a significant impact on public health; as alluded to above, daily consumption of up to 1.5 drinks per day accounts for an estimated 26–35 percent of alcohol-attributable cancer deaths in the United States each year, i.e. between 4,732 and 7,455 deaths per year.²⁰

But how does this cancer risk compare with the health benefits associated with “light” or “moderate” drinking? Some research indicates that light alcohol consumption, particularly without

¹³ See *LARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Alcohol Drinking*, World Health Organization International Agency for Research on Cancer, <https://monographs.iarc.fr/wp-content/uploads/2018/06/mono44.pdf>.

¹⁴ Hawkins et al. “Awareness of Dietary and Alcohol Guidelines Among Colorectal Cancer Survivors.” *American Journal of Preventive Medicine* (2015), <https://www.sciencedirect.com/science/article/pii/S0749379715004869>

¹⁵ LoConte et al. “Alcohol and Cancer: A Statement of the American Society of Clinical Oncology,” *Journal of Clinical Oncology* 2018 36:1, 83-93, at 85 <https://ascopubs.org/doi/full/10.1200/JCO.2017.76.1155>

¹⁶ See Abel EL, Kruger ML, Friedl J. “How do physicians define ‘light,’ ‘moderate,’ and ‘heavy’ drinking?” *Alcohol Clin Exp Res*. 1998 Aug;22(5):979-84. doi: 10.1111/j.1530-0277.1998.tb03692.x. PMID: 9726266.

¹⁷ *Facing Addiction in America: The Surgeon General’s Report on Alcohol, Drugs, and Health*, U.S. DEPT OF HEALTH & HUMAN SERVS. (HHS), OFFICE OF THE SURGEON GEN.6-11 (Nov. 2016), <https://addiction.surgeongeneral.gov/sites/default/files/surgeon-generals-report.pdf>

¹⁸ See LoConte et al. *supra* note 15 at p.85.

¹⁹ Bagnardi et al. “Light alcohol drinking and cancer: a meta-analysis,” *Annals of Oncology*, Volume 24, Issue 2, February 2013, Pages 301–308, <https://academic.oup.com/annonc/article/24/2/301/223860>

²⁰ Nelson DE, Jarman DW, Rehm J, Greenfield TK, Rey G, Kerr WC, Miller P, Shield KD, Ye Y, Naimi TS. Alcohol-attributable cancer deaths and years of potential life lost in the United States. *Am J Public Health*. 2013; 103(4):641–648. [PubMed: 23409916]

binge drinking, is associated with a lower risk of all-cause mortality compared with never drinking.²¹ This raises the question of whether the health benefits of “moderate” drinking, e.g. a decrease in heart disease risk, may outweigh the increased cancer risk.²² If this were true, then some might reasonably characterize a cancer warning as a “scare tactic” to persuade consumers to drink less on the basis of a misleading portrayal of alcohol’s health effects. However, for many, if not most consumers, the health risks associated with even moderate drinking outweigh the benefits.

This is because different consumers are more or less vulnerable to increased cancer risk from moderate drinking, and more or less likely to experience meaningful cardiovascular benefits. For example, according to a study of breast cancer patients in Canada, women with BRCA2 mutations may be at greater risk of alcohol-induced breast cancer.²³ And as already mentioned, at least one study suggests that many colon cancer survivors are unaware that alcohol increases cancer risk. More generally, the likelihood that moderate alcohol use may provide a net health benefit appears to rise with a consumer’s age, in part because cancer affects a younger cohort than cardiovascular diseases.²⁴ In other words, younger consumers may especially benefit from a cancer warning on alcoholic beverages.

Even accepting that some consumers may enjoy net health benefits from moderate drinking, a growing body of scientific literature suggests that this group may be much smaller than previously believed, for two reasons. First, studies documenting health benefits associated with moderate drinking have not aged well. As the Centers for Disease Control and Prevention explains on its website:

Although past studies have indicated that moderate alcohol consumption has protective health benefits (*e.g.*, reducing risk of heart disease), recent studies show this may not be true. While some studies have found improved health outcomes among moderate drinkers, it’s impossible to conclude whether these improved outcomes are due to moderate alcohol consumption or other differences in behaviors or genetics between people who drink moderately and people who don’t.²⁵

²¹ Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. [“DGAC Report”] U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. *Available at:* <https://doi.org/10.52570/DGAC2020> (Ch. 11, p. 15).

²² *See, e.g.* Interview with Eric Rimm, Professor of Epidemiology and Nutrition and Director of the Program in Cardiovascular Epidemiology at the Harvard T.H. Chan School of Public Health and Professor of Medicine at the Harvard Medical School (2019), <https://www.alcoholproblemsandsolutions.org/alcohol-in-health-promotion-dr-eric-rimm-of-harvard/> (“while a woman who consumes one drink per day may increase her risk of breast cancer by about 10%, her risk of developing the much more probable heart attack is reduced by 30-40%. And a woman is many times more likely to die from heart disease than from breast cancer. In the U.S., about 10 times more women die of heart disease than breast cancer.”). As discussed below, however, scientific authorities such as the Centers for Disease Control and Prevention and the 2020 Dietary Guidelines Advisory Committee have cast doubt on whether consuming “one drink per day” actually causes a significant reduction in heart attack risk. *See infra* notes 25 and 26 and related discussion.

²³ Dennis J, Krewski D, Côté FS, Fafard E, Little J, Ghadirian P. Breast cancer risk in relation to alcohol consumption and BRCA gene mutations--a case-only study of gene-environment interaction. *Breast J.* 2011 Sep-Oct;17(5):477-84. doi: 10.1111/j.1524-4741.2011.01133.x. Epub 2011 Jul 15. PMID: 21762248.

²⁴ Population-level risks of alcohol consumption by amount, geography, age, sex, and year: A systematic analysis for the global burden of disease study 2020, *Lancet* (2022)[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(22\)00847-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00847-9/fulltext)

²⁵ CDC. “Moderate Drinking” <https://www.cdc.gov/alcohol/fact-sheets/moderate-drinking.htm> (last updated in December, 2019) (last visited September __, 2020) *citing* I Chikritzhs T, Fillmore K, Stockwell T. [A healthy dose of](#)

In fact, a new body of research—Mendelian randomization (MR) studies—increasingly suggests that improved health outcomes of moderate drinkers are not due to alcohol consumption. MR studies reduce the confounding and selection bias that plagued past observational studies by comparing the disease outcomes of light or moderate drinkers with individuals who have certain genetic variants that make them allergic or intolerant to alcohol. In its 2020 report, the Dietary Guidelines Advisory Committee (DGAC) noted that “MR studies do not find reduced associations for coronary heart disease and ischemic stroke among low average consumers compared with non-drinkers of alcohol, which is inconsistent with findings from observational studies.”²⁶

The second reason to doubt that many moderate drinkers enjoy net health benefits from their consumption relates to cancer research. The latest studies, including MR studies, have provided further confirmation that drinking alcohol, even in moderate quantities, increases the risk of certain cancers. The 2020 DGAC also reviewed MR studies on alcohol consumption and cancer and noted that they “indicate that alcohol consumption is positively associated with certain types of cancer, and are consistent with evidence from prospective cohort studies.” Since the DGAC report, several new MR studies have confirmed the association between alcohol and cancer and shed light on the specific mechanisms, such as DNA methylation, by which alcohol causes colon and breast cancers.²⁷

[skepticism: four good reasons to think again about protective effects of alcohol on coronary heart disease](#) External. *Drug Alcohol Rev* 2009;28:441–4; Andréasson S, Chikritzhs T, Dangardt F, Holder H, Naimi T, Stockwell T. [Evidence about health effects of “moderate” alcohol consumption: reasons for skepticism and public health implications](#). Cdc-pdf. In: *Alcohol and Society 2014*. Stockholm: IOGT-NTO & Swedish Society of Medicine, 2014; Knott CS, Coombs N, Stamatakis E, Biddulph JP. [All cause mortality and the case for age specific alcohol consumption guidelines: pooled analyses of up to 10 population based cohorts](#). *BMJ* 2015;350:h384; Holmes MV, Dale CE, Zuccolo L, et al. [Association between alcohol and cardiovascular disease: Mendelian randomisation analysis based on individual participant data](#). *BMJ* 2014;349:g4164; Naimi TS, Brown DW, Brewer RD, et al. [Cardiovascular risk factors and confounders among nondrinking and moderate-drinking US adults](#). *Am J Prev Med* 2005;28(4):369–73.

²⁶ Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. Available at: <https://doi.org/10.52570/DGAC2020> (Ch. 11, p. 18).

²⁷ Li Y, Ye D, Zhou W, Liu B, Mao Y, Sun X. Alcohol consumption and colorectal cancer risk: A mendelian randomization study. *Front Genet*. 2022 Sep 23;13:967229. doi: 10.3389/fgene.2022.967229. <https://pubmed.ncbi.nlm.nih.gov/36212149/> (colorectal cancer); Zhou X, Wang L, Xiao J, Sun J, Yu L, Zhang H, Meng X, Yuan S, Timofeeva M, Law PJ, Houlston RS, Ding K, Dunlop MG, Theodoratou E, Li X. Alcohol consumption, DNA methylation and colorectal cancer risk: Results from pooled cohort studies and Mendelian randomization analysis. *Int J Cancer*. 2022 Jul 1;151(1):83–94. doi: 10.1002/ijc.33945. <https://pubmed.ncbi.nlm.nih.gov/35102554/> (colorectal cancer); Zhou, X., Yu, L., Wang, L. et al. Alcohol consumption, blood DNA methylation and breast cancer: a Mendelian randomisation study. *Eur J Epidemiol* 37, 701–712 (2022). <https://doi.org/10.1007/s10654-022-00886-1> (breast cancer); Yoo JE, Han K, Shin DW, et al. Association Between Changes in Alcohol Consumption and Cancer Risk. *JAMA Netw Open*. 2022;5(8):e2228544. doi:10.1001/jamanetworkopen.2022.28544, <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2795595> (alcohol-related cancers and all cancers).

I.D. Raising awareness of alcohol cancer risk may help to address alcohol-related harms more generally.

Warning labels about alcohol cancer risk have led to decreased alcohol sales.²⁸ Experimental evidence has also documented a link between greater awareness of alcohol cancer risk, and support for alcohol control policies.²⁹ These factors suggest that alcohol cancer warnings could reduce overall alcohol consumption. Reducing the overall level of alcohol consumption—the average per capita consumption—has been shown to coincide with reduced alcohol-related harms in countries across the world.³⁰

This is not to say that the goal of a cancer or any other health warning statement should be to eliminate alcohol use altogether. Nearly every culture features some psychotropic drug use, with alcohol by far the most popular of such substances.³¹ But even accepting that alcohol use will feature prominently in American society for generations to come, there is good reason to believe that reducing alcohol consumption from current levels will greatly benefit public health and the economy.

Levels of alcohol consumption have increased significantly in recent years. According to the most recent sales data, “per capita consumption” of alcohol increased 2.9 percent from 2020 to 2021, up 5.5% from 2019, “the largest two-year increase since 1969.”³² During the same time period, estimates of alcohol-related deaths skyrocketed, with a 25.5% spike during the first year of the pandemic followed by a 9.9% increase in deaths during 2021.³³ Self-reported alcohol consumption and risky drinking patterns increased in particular among women, Black consumers, and consumers with minor children in the home.³⁴ According to the CDC, alcohol-related harms, such as increased deaths from chronic liver disease and cirrhosis, have contributed significantly to the unprecedented decline in life expectancy in the United States over two consecutive years.³⁵

²⁸ Zhao J, Stockwell T, Vallance K, Hobin E. The Effects of Alcohol Warning Labels on Population Alcohol Consumption: An Interrupted Time Series Analysis of Alcohol Sales in Yukon, Canada. *J Stud Alcohol Drugs*. 2020 Mar;81(2):225-237. PMID: 32359054.

²⁹ Seidenberg AB, Wiseman KP, Eck RH, Blake KD, Platter HN, Klein WMP. Awareness of alcohol as a carcinogen and support for alcohol control policies. *Am J Prev Med* 2022; 62: 174-82 (“Studies from the United States, Australia, England, Canada, and Denmark have all found awareness of the alcohol-cancer link to be associated with increased support for a variety of alcohol policies...”).

³⁰ Rossow I, Mäkelä P. Public Health Thinking Around Alcohol-Related Harm: Why Does Per Capita Consumption Matter? *J Stud Alcohol Drugs*. 2021 Jan;82(1):9-17. PMID: 33573718.

³¹ See, e.g., Edward Slingerland. *Drunk: How We Sipped, Danced, and Stumbled Our Way to Civilization* (2021).

³² National Institute on Alcohol Abuse and Alcoholism. Apparent Per Capita Alcohol Consumption: National, State, and Regional Trends, 1977-2021. Bethesda, MD: US Department of Health and Human Services, Public Health Service, National Institutes of Health.

<https://pubs.niaaa.nih.gov/publications/surveillance120/surveillance-report120.pdf> (2023).

³³ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) [Internet]. National Center for Health Statistics Mortality Data on CDC WONDER. Multiple cause of death, 2018–2021. 2023. Available from: <https://wonder.cdc.gov/controller/saved/D157/D324F825>.

³⁴ Barbosa, Carolina PhD; Dowd, William N. BA; Barnosky, Alan MA; Karriker-Jaffe, Katherine J. PhD. Alcohol Consumption During the First Year of the COVID-19 Pandemic in the United States: Results From a Nationally Representative Longitudinal Survey. *Journal of Addiction Medicine* 17(1):p e11-e17, 1/2 2023. | DOI: 10.1097/ADM.0000000000001018

³⁵ Press release, Centers for Disease Control & Prevention. “Life Expectancy in the U.S. Dropped for the Second Year in a Row in 2021,” (Aug. 31, 2022), https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2022/20220831.htm

The rising toll of alcohol-related harms has brought renewed attention to policies that reduce harmful alcohol use. Increasing alcohol taxes, restricting hours of alcohol sales, and regulating alcohol outlet density are strategies commonly endorsed by public health authorities such as the Community Preventive Services Task Force (CPSTF), an independent, nonfederal, volunteer body of public health and prevention experts.³⁶ Alcohol cancer warnings may not reduce alcohol-related harms as much as those policies, but they are also less interventionist, and the evidence suggests they can drive down consumption. When cancer warning labels were used during a trial period of one month in the Yukon, Canada, researchers found that the labels were associated with a 6-10% reduction in sales. Moreover, in online studies, participants are more likely to support alcohol control policies like those supported by the CPSTF after being exposed to messaging about alcohol cancer risk.³⁷ Policies to raise awareness of alcohol cancer risk may be seen as a first step in a more comprehensive strategy to reduce alcohol-related harms.

II. Options for raising consumer awareness of alcohol-cancer

Accepting the need for raising awareness of alcohol-cancer risk, what can public policy do to better inform consumers? Alcoholic beverage labels are currently required to display a health warning statement, and as the Yukon study alluded to earlier suggests, updating that statement to include a message about cancer risk could significantly influence consumers. Such an update, however, will have to overcome U.S. Congressional inertia and a deep-pocketed alcohol lobby that delayed the current legislation requiring a health warning statement on alcohol by over two decades.

Fortunately, state and local lawmakers have policy options available. Perhaps the most influential policy would be to require a health warning statement on alcohol advertising, a policy that Congress once debated but never enacted. Given the ubiquity of alcohol advertising, a well-designed disclosure requirement could educate many consumers. However, recent First Amendment jurisprudence may invite lawsuits claiming that a disclosure requirement infringes on advertisers' constitutional rights. Several factors would differentiate a cancer warning, and other health warning statements on alcohol advertising, from previous cases involving sugar-sweetened beverages, cigarettes, and herbicides. Even so, the likelihood of litigation presents a major disincentive to cash-strapped state and local governments.

Another option, more securely within the authority of state or local officials to exercise, are so-called point-of-service (POS) warnings. POS warning laws require retailers to post health warning statements where alcoholic beverages are sold. Currently, one state—California—requires a POS cancer warning for alcoholic beverages. Nearly half the states require POS warnings related to drinking and fetal alcohol syndrome. Studies suggest that POS warnings can have a significant impact on consumer awareness.

The following discusses these options, concluding that POS cancer warnings for alcohol may be the most politically and legally feasible option today.

³⁶ Centers for Disease Control & Prevention. "Alcohol and Public Health," <https://www.cdc.gov/alcohol/fact-sheets/prevention.htm> (last visited July 26, 2023).

³⁷ See Seidenberg et al *supra* note 29.

II.A. Requiring a health warning statement on alcohol advertising

Alcohol companies spend billions of dollars each year in the U.S. market alone to advertise their products. They rank among the companies that spend the most on advertising, in stark contrast to the tobacco industry, whose ads must include a health warning statement.³⁸ Requiring a cancer warning statement on alcohol ads could significantly influence public awareness, and also deter some alcoholic beverage advertising altogether. This deterrence would likely provide an ancillary public health benefit since greater exposure to alcohol marketing is associated with greater levels of alcohol-related harm.³⁹ Recent federal case law, however, gives unclear guidance on how such a required health disclosure can avoid conflicts with commercial speech protections under the First Amendment.

Public health advocates have long championed health warning statements on alcohol advertising. The “Sensible Advertising and Family Education Act,” introduced by Rep. Joseph Kennedy and co-sponsored by 26 U.S. congressional representatives in 1993, would have required health and safety warnings on all alcohol advertising.⁴⁰ Congress never acted, but state or local legislatures could; Congress does not have exclusive authority to regulate alcohol advertising. The Alcoholic Beverage Labeling Act of 1988, or ABLA, requires that a health warning statement appear on the labels of all containers of alcoholic beverages manufactured, imported, or bottled for sale or distribution in the United States, and the law expressly preempts states from requiring any alternative “statement relating to alcoholic beverages and health” on alcoholic beverage labels and containers. However, as the ABLA’s Senate sponsor emphasized during debate on the bill, “the preemption should not be construed to indicate that the States do not have the authority in other areas—such as industry advertisements . . .”⁴¹ Currently, federal law requires print advertisements and “other advertisements with a visual component” for cigarettes to display one of 11 required warning statements on at least 20 percent of the area of the advertisement.⁴² State or local lawmakers could enact a similar requirement for alcoholic beverage advertising within their jurisdiction.

However, a muddled body of corporation-friendly First Amendment law represents an important disadvantage of such a health warning requirement on alcohol advertising. While federal courts have not specifically addressed whether a health warning requirement would infringe on alcohol advertisers’ protected speech rights, a pronounced trend has emerged in favor of advertisers at the expense of public health concerns. This has led many policymakers to adopt a cautious approach towards commercial speech. For example, even though state and local laws have regulated the time,

³⁸ Jernigan D, Ross CS. The Alcohol Marketing Landscape: Alcohol Industry Size, Structure, Strategies, and Public Health Responses. *J Stud Alcohol Drugs Suppl.* 2020 Mar;Suppl 19(Suppl 19):13-25. doi: 10.15288/jsads.2020.s19.13. PMID: 32079559; PMCID: PMC7064002. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7064002/>

³⁹ See *Anheuser-Busch, Inc. v. Schmoke*, 101 F.3d 325, 327 (4th Cir. 1996) (recognizing “the reasonableness of Baltimore City’s legislative finding that there is a ‘definite correlation between alcoholic beverage advertising and underage drinking”).

⁴⁰ See H.R. 1823 — 103rd Congress: Sensible Advertising and Family Education Act.” www.GovTrack.us. 1993. January 24, 2023 <https://www.govtrack.us/congress/bills/103/hr1823>; see also Thomas Galvin. “Brewer fighting ad warnings” *Tampa Bay Times* (Dec. 14, 1993), <https://www.tampabay.com/archive/1993/12/14/brewers-fighting-ad-warnings/>

⁴¹ Amanda Grove, Sobering News for the Alcohol Industry, 11 *Hastings Comm. & Ent L.J.* 643, 669 (1989).

⁴² U.S. Food and Drug Administration, “Cigarette Labeling and Health Warning Requirements,” <https://www.fda.gov/tobacco-products/labeling-and-warning-statements-tobacco-products/cigarette-labeling-and-health-warning-requirements#3> (last visited July 26, 2023).

place and manner of alcohol advertising for years,⁴³ the alcohol industry has recently used the threat of First Amendment litigation to roll back many of those laws. A 2019 press release of the Distilled Spirits Council celebrates the repeal of a “25-year-old ban on alcohol billboards in Baltimore City.” The trade association explained that it had written to city officials “raising serious constitutional commercial free speech concerns with the billboard ban in light of several recent Supreme Court decisions.”⁴⁴ The release notes that Baltimore joined Charlotte, Chicago, Washington, D.C., and Boston in repealing alcohol advertising bans.⁴⁵

Baltimore’s billboard ban was upheld by the federal courts against a free speech challenge when it first went into effect in 1994.⁴⁶ The Supreme Court’s 2001 decision in *Lorillard Tobacco Co. v. Reilly*⁴⁷ struck down restrictions on outdoor advertising of tobacco, but left open the possibility that “youth presence” alcohol advertising ordinances like Baltimore’s remained constitutional. Nevertheless, First Amendment jurisprudence has continued to evolve. In an article last year examining the Supreme Court’s commercial speech doctrine, constitutional scholar Jennifer Pomeranz concludes: “The Supreme Court’s interpretation of the freedom of speech over the last two decades has fundamentally changed First Amendment jurisprudence, protecting corporate expression in all meaningful ways and at the expense of other values, including health.”⁴⁸ Of particular relevance here, the case law has “created upheaval in how to interpret the government’s ability to require disclosures or warnings in the commercial context.”⁴⁹

The seminal case governing when the state may compel speech in the commercial advertising context is *Zauderer v. Office of the Disciplinary Counsel*, 471 U.S. 626 (1985). In *Zauderer*, the Supreme Court held that regulators can require a commercial actor to divulge information so long as it is “reasonably related to the State’s interest in preventing deception of consumers.”⁵⁰ Specifically, the *Zauderer* court upheld a rule requiring an attorney’s newspaper advertisement to disclose that potential clients “might be liable for significant litigation costs.”⁵¹ In doing so, the court set out a three-part test for disclosure requirements applicable to commercial speech: 1) the requirement must be reasonably related to the government’s interest; 2) it may only compel “purely factual and uncontroversial information” about the product or service at issue; and 3) it cannot be unjustified or unduly burdensome.⁵² Federal courts have applied *Zauderer* to uphold “various warning and disclosure

⁴³ See Center on Alcohol Marketing and Youth (2003) “STATE ALCOHOL ADVERTISING LAWS: Current Status and Model Policies.” Available at: https://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/reports/alcohol_marketingand_youth/hscamystatereportpdf.pdf

⁴⁴ Press release. Distilled Spirits Council of the United States. “Distilled Spirits Council-Led Coalition Results in Successful Repeal of Baltimore City Alcohol Billboard Ban,” (Jan. 17, 2019), available at:

<https://www.distilledspirits.org/news/distilled-spirits-council-led-coalition-results-in-successful-repeal-of-baltimore-city-alcohol-billboard-ban/>

⁴⁵ *Id.*

⁴⁶ See *Anheuser-Busch, Inc. v. Schmoke*, *supra* note 39.

⁴⁷ 533 U.S. 525 (2001).

⁴⁸ Pomeranz, J. (2022). United States: Protecting Commercial Speech under the First Amendment. *Journal of Law, Medicine & Ethics*, 50(2), 265-275. doi:10.1017/jme.2022.51.[“Protecting Commercial Speech”]

⁴⁹ *Id.*

⁵⁰ *Zauderer*, 471 U.S. at 651.

⁵¹ *Id.* at 628.

⁵² *Id.* at 651.

requirements, such as country of original labeling on food, textual health warnings on tobacco products, and calorie disclosures on restaurant menus.”⁵³

In 2018, however, the Supreme Court cast uncertainty on this body of caselaw with its decision in *National Institute of Family & Life Advocates v. Becerra*, 138 S. Ct. 2361 (2018). In *Becerra*, the Court’s conservative majority ruled that California could not require clinics serving pregnant women to post notices regarding the availability of state-provided family planning services, including abortions. According to the court, the notice requirement violated the clinic operators’ First Amendment rights. The court cited various rationales for declining to apply the *Zauderer* standard to the required disclosures, including the finding that California had unconstitutionally targeted clinics that oppose abortion, and that abortion is “anything but an ‘uncontroversial’ topic.”⁵⁴ The Court did not address the California legislature’s findings that the regulated clinics’ “intentionally deceptive advertising and counseling practices often confuse, misinform, and even intimidate women from making fully informed, time-sensitive decisions about critical health care.”⁵⁵ However, the opinion acknowledges the validity of at least some disclosure requirements aimed at preventing consumer deception: “We do not question the legality of health and safety warnings long considered permissible, or purely factual and uncontroversial disclosures about commercial products.”⁵⁶

For the Ninth Circuit Court of Appeals, a health warning statement on sugar-sweetened beverage advertising did not fall into this category. Citing *Becerra*, the Court of Appeals *en banc* decision in *American Beverage Association v. San Francisco* invalidated a local ordinance that sought to require billboards and other advertisements for sugar-sweetened beverages to require the following health warning statement:

WARNING: Drinking beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay. This is a message from the City and County of San Francisco.⁵⁷

The majority ruled that the ordinance violated advertisers’ First Amendment rights because the requirement that the warning cover 20% of the advertisement was “unduly burdensome.”⁵⁸ According to the court, “a smaller warning—half the size—would accomplish Defendant’s stated goals.” Notably, a government expert had presented evidence that “larger warnings are more effective,” but the court reasoned that, since the expert had also referred to a study showing that smaller warnings were at least somewhat effective, “the 20% requirement is not justified.” The court rejected the argument that a 20% space requirement, used in tobacco and prescription warnings, was justified as a “best practice.” Rather, the court held that the government had the burden of showing “that the contrasting rectangular border containing a warning that covers 20% of the advertisement does not drown out Plaintiffs’ messages and effectively rule out the possibility of having an advertisement in the first place.”⁵⁹

⁵³ Jennifer L. Pomeranz, 2019: Abortion Disclosure Laws and the First Amendment: The Broader Public Health Implications of the Supreme Court’s *Becerra* Decision, *American Journal of Public Health* 109, 412_418, <https://doi.org/10.2105/AJPH.2018.304871>

⁵⁴ *Becerra*, 138 S. Ct. at 2372.

⁵⁵ Pomeranz, *supra* note 53 at 416.

⁵⁶ *Becerra*, 138 S. Ct. at 2376.

⁵⁷ *Am. Beverage Ass’n v. City & Cnty. of San Francisco*, 916 F.3d 749, 753 (9th Cir. 2019).

⁵⁸ *Id.* at 757.

⁵⁹ *Id.*

What sort of warning requirement would not “drown out” an advertiser’s message? The *American Beverage Association* decision gives little guidance on that question. The court rejected the 20% size requirement because an expert for the state “cited and discussed a study that examined . . . warnings covering only 10% of the image,” and found them to be effective. However, the court hastened to add: “we do not hold that a warning occupying 10% of product labels or advertisements necessarily is valid.”⁶⁰ Cautious public policymakers would be forgiven for reading the opinion and other recent caselaw on government warnings to establish an impossibly high burden for government agencies to show that an advertising disclosure requirement is “not more extensive than is necessary.”⁶¹

However, at least four factors distinguish warning statements on alcohol advertising from those on sugar-sweetened beverages. First, Congress has required health warning statements on alcoholic beverage labels for decades, since passage of the ABLA in 1988. This should arguably bring a health warning on alcohol advertising, including a cancer warning, into the realm of “health and safety warnings long considered permissible” by the *Becerra* court. The Ninth Circuit affirmed this view in *dicta*, noting that the *Becerra* opinion does not operate to preclude “health and safety warnings . . . merely because the knowledge that the warnings convey is new.”⁶²

Second, and relatedly, consuming alcohol poses a clearer danger to health than sugar-sweetened beverages. Sugar-sweetened beverages have undoubtedly contributed significantly to an ongoing diet-related disease epidemic, but disentangling their public health impact from that of other sugary or otherwise unhealthy foods is less straightforward than estimating the harms associated with alcohol. This consideration appeared to influence the Ninth Circuit in its decision striking down the San Francisco ordinance, with one concurring opinion arguing that the “factual accuracy of the warning is disputed in the record,” and another arguing that the warning, by failing to distinguish type 1 and type 2 diabetes, was “literally false.”⁶³ By contrast, health warnings on alcohol, including cancer warnings, give rise to little factual dispute.

Third, as discussed in the first section, alcohol cancer warnings address a critical blind spot in the collective consciousness, and thus serve to prevent deception in a way that warnings on other products may not. The *Zauderer* court noted that “the possibility of consumer confusion or deception” has long justified disclosure requirements.⁶⁴ In *Becerra*, the Supreme Court indicated that, should California “gather enough evidence” to demonstrate that the required notices were necessary to address confusion among pregnant women visiting the covered clinics, the law might not unduly burden protected speech.⁶⁵ This language has led constitutional scholars to conclude that “policymakers should rely on evidence of deception going forward to support clear and factual disclosure and warning requirements that seek to dissipate consumer confusion and highlight potential health and safety harms.”⁶⁶ Survey results consistently showing that less than half of U.S.

⁶⁰ *Id.*

⁶¹ See, e.g. *R.J. Reynolds Tobacco Co. v. U.S. Food & Drug Admin.*, No. 6:20-CV-00176, 2022 WL 17489170, at 17 (E.D. Tex. Dec. 7, 2022) citing *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of New York*, 447 U.S. 557, 557 (1980) (invalidating proposed cigarette warning label because Congress and FDA failed to show “that less burdensome warnings on cigarette packages and advertisements would not achieve the government’s interest,” in part because they “did not test the efficacy of ‘smaller or differently placed warnings.’”).

⁶² *Am. Beverage Ass’n*, 916 F.3d at 756, n.4.

⁶³ *Id.* at 761.

⁶⁴ *Zauderer*, 471 U.S. at 651.

⁶⁵ *Becerra*, 138 S. Ct. at 2377, n.4.

⁶⁶ Pomeranz, “Abortion Disclosure Laws,” *supra* note 53, at 418.

adults are aware of alcohol cancer risk should provide at least a starting point in meeting that evidentiary burden.

Finally, since 1986, California has required retailers to post an alcohol cancer warning pursuant to Proposition 65.⁶⁷ This reinforces the notion that a cancer warning on alcohol advertising should fall into the category of “health and safety warnings long considered permissible” by the *Becerra* court. Perhaps more importantly, the Prop 65 warnings’ limited success in raising awareness provides evidence that an alcohol cancer warning on advertising would not be “unjustified or unduly burdensome” as interpreted by the Ninth Circuit in its *American Beverage Association* opinion. As discussed in more detail below, researchers have shown that Californians are significantly more aware than most Americans that consuming alcohol increases cancer risk, suggesting that the Prop 65 notices may succeed in their intended effect. However, that success has been limited. Californians’ awareness of alcohol cancer risk, while significantly higher, is still low, with just 41.6% of survey respondents reporting an association between alcohol and cancer risk.⁶⁸

These factors should provide some encouragement to state or local policymakers contemplating a health warning requirement on alcohol advertising. As discussed, policymakers will need to assemble robust evidentiary support for provisions such as minimum size specifications, and required warning language. Despite its disclaimer, the Ninth Circuit’s *American Beverage Association* opinion could be read to endorse a 10% space requirement.

The prescribed language used in a warning requirement could play an important role as well in defending a legal challenge. California policymakers could draw from the existing Prop 65 POS warning—“Drinking distilled spirits, beer, coolers, wine and other alcoholic beverages may increase cancer risk, and, during pregnancy, can cause birth defects. For more information go to www.P65Warnings.ca.gov/alcohol.” Alternatively, the previously alluded to Yukon study demonstrated the efficacy of the more abbreviated statement: “Alcohol use can cause cancer, including breast and colon cancers.”⁶⁹ Policymakers could also follow the example of Ireland, which soon will require alcoholic beverage labels to include the warning: “There is a direct link between alcohol and fatal cancers.”⁷⁰ As discussed, the evidence demonstrating the link between alcohol and cancer is hardly controversial, but that does not mean the alcohol industry will not argue otherwise. Thus, state or local policymakers might try to sidestep a challenge by requiring a warning statement that is literally true, e.g.: “According to the National Cancer Institute, there is a strong scientific consensus that alcohol drinking can cause several types of cancer.”

Whatever the specifics, requiring a health warning statement on alcohol advertising, particularly a cancer warning, is almost certain to invite a legal challenge from industry. Even for policymakers willing to brave the courts, the specter of creating yet another precedent that favors corporate speech rights at the expense of public health should urge caution. The established pedigree

⁶⁷ See Budenz, A.; Moser, R.P.; Eck, R.; Agurs-Collins, T.; McNeel, T.S.; Klein, W.M.P.; Berrigan, D. “Awareness of Alcohol and Cancer Risk and the California Proposition 65 Warning Sign Updates: A Natural Experiment.” *Int. J. Environ. Res. Public Health* 2022, 19, 11862. <https://doi.org/10.3390/ijerph191911862>

⁶⁸ *Id.*

⁶⁹ See Zhao J, Stockwell T, Vallance K, Hobin E. The Effects of Alcohol Warning Labels on Population Alcohol Consumption: An Interrupted Time Series Analysis of Alcohol Sales in Yukon, Canada. *J Stud Alcohol Drugs*. 2020 Mar;81(2):225-237. PMID: 32359054.

⁷⁰ Statutory Instrument No. 249/2023 - Public Health (Alcohol) (Labelling) Regulations 2023 available at: <https://www.irishstatutebook.ie/eli/2023/si/249/made/en/print>

of alcohol health warnings, including cancer warnings, the consensus around alcohol consumption's harm to public health, and the low awareness of alcohol's contribution to cancer risk, all support the constitutionality of warning statements on alcohol advertising. But the evidentiary burden associated with defending an advertising warning requirement will remain a strong disincentive for policymakers.

II.B. Point-of-Sale Alcohol Cancer Warnings

Point-of-sale (POS) warnings reach a smaller audience than advertising disclaimers, but they entail minimal litigation risk, and could provide a foothold for advocates seeking to build awareness. Rather than regulating the powerful (and litigious) alcoholic beverage manufacturers, POS warning laws require alcohol retailers to post signs with a warning statement. Some 23 states and the District of Columbia have implemented POS laws requiring messages about the dangers of drinking while pregnant, mostly during the 1980s and 1990s.⁷¹ Some states, such as Georgia, only require retailers selling alcohol for on-premise consumption to post warnings, i.e. bars and restaurants.⁷² More typically, the laws also apply to retailers licensed to sell alcohol for off-premise consumption, such as grocery and liquor stores. The licensees must post some variation of the message “drinking during pregnancy can cause birth defects.”⁷³ Some states require additional messages, such as in Washington, D.C.: “driving while intoxicated or under the influence is illegal.”⁷⁴

As alluded to earlier, California has long required a POS alcohol cancer warning, and a recent study found that state residents have greater awareness of alcohol cancer risk than Americans on average.⁷⁵ But the study concedes that the extent to which Prop 65 warnings account for this superior knowledge, as opposed to other characteristics of the California population and policy landscape, remains an open question. Notably, the study did not find a statistically significant increase in awareness of alcohol cancer risk among California's versus the rest of the country following an update to the Prop 65 alcohol warnings in 2018. However, that may reflect the modest nature of that update, which added a web address but otherwise omitted “factors that appear to influence the effects of labeling” including “changes to aesthetic characteristics, size, or specific messages about cancer.”⁷⁶

Other studies, however, provide robust evidence that POS warnings can influence consumer behavior. Of particular relevance, a 2017 study of POS warnings on alcohol consumption during pregnancy indicates that the signs can serve an important educational function. The study compared CDC birth certificate data, including responses to questions about alcohol consumption during pregnancy, from residents in states with POS warning requirements, versus data from residents in control states. More specifically, each adopting state was paired with a non-adopting control state that mostly closely matched it, and a statistical model controlled for variables including “racial, educational, age and marital status compositions, and other alcohol and tobacco policies.”⁷⁷ The data indicated that POS warning laws are associated with an 11% decrease in the odds of alcohol consumption during

⁷¹ Cil G. Effects of posted point-of-sale warnings on alcohol consumption during pregnancy and on birth outcomes. *J Health Econ*. 2017 May;53:131-155. doi: 10.1016/j.jhealeco.2017.03.004. Epub 2017 Mar 18. PMID: 28343094.

⁷² See GA Code § 3-1-5.

⁷³ Cil *supra* note 71, at 131.

⁷⁴ District of Columbia Alcoholic Beverage and Cannabis Administration. “Signage and Collateral.” <https://abra.dc.gov/page/signage-and-collateral> (last visited July 26, 2023).

⁷⁵ Budenz, *supra* note 67.

⁷⁶ *Id.*

⁷⁷ Cil *supra* note 71, at 134.

pregnancy, as well as decreases in occurrence of babies born very prematurely or with very low birth weight.

Studies have also demonstrated the efficacy of POS warnings related to sugar-sweetened beverages (SSBs). One recent review summarizes five such studies, noting that four of them documented significant declines in SSB sales. The authors conclude that “limited evidence, albeit of strong quality, [] demonstrates POS sugar information signage is an effective strategy to reduce actual purchases of SSBs in real-world settings.” The authors emphasize that warnings signs should be “noticeable by consumers,” and “present clear and precise information that is easily understood by consumers.”⁷⁸

Legislation requiring POS alcohol cancer warning signs can help to ensure these criteria are met by specifying locations and sizes for signage, and simple language for warning statements, such as that used in the Yukon study: “Alcohol use can cause cancer, including breast and colon cancers.” Advocates for cancer warning legislation can also build on, and reinforce, the public health gains made through the use of POS warnings on drinking while pregnant. In jurisdictions where no POS warnings are currently required, legislation may prescribe signs informing consumers of both cancer risk and birth defect risk associated with alcohol. In states with existing POS requirements, legislation to enact cancer warnings may improve upon pregnancy warnings by, for example, requiring pictorial elements, such as a silhouette of a pregnant woman next to an image of bottle circled and crossed out.

Conclusion

For decades, a broad scientific consensus has recognized that alcohol consumption, even in small amounts, significantly increases the risk of various cancers. Yet public awareness has not followed. State and local policies to educate consumers about alcohol cancer risk could greatly benefit public health. In particular, the available evidence indicates that cancer warning statements on alcoholic beverage advertising, and on signs at point-of-sale (POS) would save lives at relatively little cost.

Policies to raise awareness of alcohol cancer risk have faced stiff resistance from the alcohol industry, which spends billions of dollars each year in the U.S. alone to instill a positive portrayal of its product in the minds of consumers. The alcohol industry has stymied efforts to update the health warning statement on alcoholic beverages in the U.S. Outside of the U.S., it successfully curtailed a study of cancer warnings on alcohol labels in the Yukon province of Canada by threatening litigation, and has helped to greatly delay implementation of a law in Ireland that would require a similar warning on alcoholic beverage labels. Collectively, local and state governments wield considerable power to counter the industry’s messaging, and at least in some jurisdictions, local and state policymakers should be relatively insulated from the industry’s influence. Local advocates, however, must make the case for why alcohol cancer warning requirements will help consumers and improve public health. This paper intends to provide a resource for doing so.

⁷⁸ Gupta, A.; Billich, N.; George, N.A.; Blake, M.R.; Huse, O.; Backholer, K.; Boelsen-Robinson, T.; Peeters, A. The effect of front-of package labels or point-of-sale signage on consumer knowledge, attitudes and behavior regarding sugar-sweetened beverages: A systematic review. *Nutr. Rev.* 2021, 79, 1165–1181.

<https://academic.oup.com/nutritionreviews/article/79/10/1165/5943226?login=false>