Alcohol Guidelines for Chronic Disease Prevention: From Prohibition to Moderation

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Text changes in the alcohol recommendation of the 1995 Dietary Guidelines for Americans attracted considerable media attention. This article provides an overview of the science and politics of the controversial guideline addressing the health risks and benefits of alcoholic beverage consumption.[a]

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In January 1996, the United States Departments of Agriculture (USDA) and Health and Human Services (HHS) released the fourth edition of their joint statement of federal dietary guidance policy for health promotion and chronic disease prevention. These latest guidelines advised:

- Eat a variety of foods.
- Balance the food you eat with physical activity—maintain or improve your weight.
- Choose a diet with plenty of grain products, vegetables, and fruits.
- Choose a diet low in fat, saturated fat, and cholesterol.
- Choose a diet moderate in sugars.
- Choose a diet moderate in salt and sodium.
- If you drink alcoholic beverages, do so in moderation.

Although the wording of the alcohol recommendation was identical to that in two previous editions of the *Dietary Guidelines*, press reports seized on changes in its accompanying text as headline news. This text had been edited extensively to reflect nearly two decades of research reporting an association between moderate alcohol consumption and a reduced risk for coronary heart disease (CHD), the leading cause of death among Americans.

Thus, the statement in the 1990 edition that "drinking has no net health benefit" had been changed to ". . .moderate drinking is associated with a lower risk for coronary heart disease. . . ." The statement, ". . .consumption is not recommended" had been changed to "alcoholic beverages have been used to enhance the enjoyment of meals by many societies throughout human history."[1]

For example, "In an About-Face, U.S. Says Alcohol Has Health Benefits," an article in the *New York Times*, focused on these changes in the text. Lest anyone miss this point, the *Times* highlighted a quote from Dr. Philip Lee, the Assistant Secretary of Health:

> Wine with meals in moderation is beneficial. There was a significant bias in the past against drinking. To move from antialcohol to health benefits is a big change.[2]

As a member of the 1995 Dietary Guidelines Advisory Committee, I

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was surprised by the press attention to the alcohol guideline, as the Committee's debates about other guidelines had been far more contentious. If anything, the alcohol guideline was the least controversial; its text was the first to be completed and approved by the Committee. Its message seemed so unremarkable that USDA and HHS did not even bother to subject it to focus-group testing.[3]

This ease of agreement reflected general consensus among Committee members about the strength of the scientific evidence relating alcohol to chronic disease risk, as well as about the compelling need to retain a public health recommendation that balanced any health benefits of moderate alcohol consumption against the well known risks of excessive alcohol intake. In my view, the easy consensus also reflected the Committee's unfamiliarity with even the most superficial aspects of historical cycles related to alcohol use and policy in the United States.[4] All of us were nutrition academics who best understood alcohol policy from the standpoint of risk—either for diseases such as CHD, cancer, hypertension, stroke, liver cirrhosis, and fetal alcohol syndrome, or for alcohol-related public health problems such as drunk driving, accidents, violence, suicides, and spousal and child abuse.

The committee of nutrition academics best understood alcohol policy from the standpoint of risk.

Press attention to the alcohol guideline also can be understood as reflecting the political and economic importance of federal dietary advice. The deceptively simple statements and their supporting text, known collectively as the *Dietary Guidelines for Americans*, constitute federal nutrition policy. USDA and HHS issued such policy statements voluntarily in 5-year intervals from 1980 to 1990. In 1990, Congress passed the National Nutrition Monitoring and Related Research Act (Public Law 101–445). Title III of that Act required the Secretaries of USDA and HHS to review the *Dietary Guidelines* every 5 years, revise them to reflect the preponderance of current scientific and medical knowledge, and promote their use in every federal food, nutrition, and health program.[5]

Thus, the *Dietary Guidelines* are anything but trivial. They have profound implications for health programs, research directions, and—most important—consumer choices of food and beverages in the marketplace. Food is an $800 billion annual enterprise in the United States.[6] Federal advice can influence sales. Any food industry likely to be affected by the *Dietary Guidelines* has a great stake in the way they are worded.

As I will explain, the alcohol industry has become increasingly interested in the *Dietary Guidelines*, largely because it can exploit the alcohol recommendation as a marketing tool.[7] Alcoholic beverages account for more than $50 billion in annual sales in the United States,[6] but per capita consumption of all alcoholic beverages, particularly distilled spirits, has been declining steadily since the early 1980s.[8] Any change in the *Guidelines* that would appear to favor the use of alcohol can be used to benefit the industry.

To explain how the text changes evolved under these circumstances, I will review key elements of the history of dietary recommendations for chronic disease prevention in the United States, the role of alcohol guidelines in that history, and the ways in which the alcohol industry—particularly the wine industry—has used the guidelines to promote alcohol consumption. The principal events of that history are summarized in the accompanying Table 1.

DIETARY RECOMMENDATIONS

The earliest recommendations for diet and health were developed by the USDA. From the early 1900s until the late 1970s, USDA dietary advice took the form of food groups, with the public advised to eat varying numbers of daily servings from varying types of food groups such as meat, dairy, fruits and vegetables, and grains. Although alcohol provides energy (measured in calories), the USDA considered it more as a drug than a food and did not mention it in nutrition education materials. Food group recommendations were designed to prevent nutrient and energy deficiencies; they encouraged people to eat more of the full range of American agricultural products, advised no restrictions, and did not generate controversy.[9]

USDA, considering alcohol more as a drug than food, offered no advice until the late 1970s.

This situation changed drastically after the World War II, when chronic diseases such as CHD, cancer, diabetes, strokes, and liver cirrhosis replaced infectious diseases as leading causes of death among Americans. In the early 1950s, Ancel Keys, a professor at the University of Minnesota, began studying the causes of what he observed as a CHD epidemic in this country. Impressed by the low CHD rates observed in Mediterranean countries, he initiated a series of investigations of dietary and other risk factors with colleagues in seven countries. These investigations soon implicated the typical high-fat American diet as a key factor in the rising rates of CHD.[10]

In 1959, Keys and his wife wrote a cookbook in which they summarized their "best advice" for lifestyle practices to reduce coronary risk. Most of their suggestions focused on reduction of fat, saturated fat, and cholesterol, but one mentioned alcohol: "be sensible about cigarettes, alcohol, excitement, business strain."[11] Readers understood this advice as an admonition to restrict alcohol to reduce CHD risk.

Table 1
Evolution of the Role of Alcohol in Dietary Guidelines for Health Promotion and Chronic Disease Prevention

1959	Ancel and Margaret Keys' best advice is to be sensible about alcohol as a means to reduce coronary heart disease (CHD) risk.
1978	American Society of Clinical Nutrition scientists rank alcohol as highly causal of liver cirrhosis, but only weakly related to CHD.
1979	The National Cancer Institute issues interim guidelines that alcoholic beverages should be consumed only in moderation to reduce cancer risk. *The Surgeon General's Report on Health Promotion and Disease Prevention* finds alcohol intake to be causally related to accidents, violence, liver cirrhosis, and cancers at several sites. The USDA issues a diet guide that includes a fifth food group—fats/sweets/alcohol—that should be consumed minimally, if at all.
1980	The first edition of the *Dietary Guidelines for Americans* states that if you drink alcohol, do so in moderation.
1983	The American Medical Association proscribes alcoholic beverages for patients with elevated blood triglycerides.
1984	The American Heart Association (AHA) recommends alcohol only in moderation to reduce lipids in blood, and abstention for patients with certain conditions. The National Heart, Lung, and Blood Institute identifies alcohol restriction as an effective method to prevent high blood pressure.
1985	The second edition of the *Dietary Guidelines* states that if you drink alcoholic beverages, do so in moderation.
1986	The AHA recommends limiting alcohol intake to 15% of total calories, not to exceed 50 ml ethanol per day.
1988	The AHA recommends limits of 1–2 oz of ethanol per day; it notes beneficial effects of modest alcohol consumption on CHD risk but does not advise taking alcohol as a preventive measure. *The Surgeon General's Report on Nutrition and Health* recommends no more than two drinks per day but focuses on drug effects of alcohol use.
1989	The National Research Council's study on *Diet and Health* advises no more than one oz of ethanol daily and recognizes that moderate drinking may reduce CHD risk, but finds research uncertain as to whether benefits outweigh risks.
1990	The third edition of the *Dietary Guidelines for Americans* retains the wording of the 1985 recommendation but uses strong cautionary language: alcoholic beverages are not recommended.
1993	The AHA recommends that for those who drink, alcohol intake should not exceed two drinks per day.
1995	The fourth edition of the *Dietary Guidelines for Americans* retains the wording of the 1985 and 1990 alcohol guidelines, but its text recognizes benefits of moderate alcohol consumption.
1996	American Cancer Society guidelines advise limiting consumption of alcohol, if consumed at all, and consideration of abstention by women at high risk of breast cancer. The AHA advises against any guideline that would lead to increased alcohol intake and suggests that people consult a doctor about even moderate drinking.

During the 1960s and 1970s, as more information became available about the role of diet in chronic disease causation, dietary recommendations began to shift from "eat more" to "eat less," particularly of fat, saturated fat, cholesterol, salt, and sugar. Much of this advice came from the American Heart Association (AHA), which published reports on the role of dietary fat in the development of CHD in the mid-1950s, advised reductions in fat intake in the 1960s, and issued dietary recommendations in the 1970s that called for significant reductions in intake of fat, saturated fat, and cholesterol.[9] None of these reports mentioned alcohol, however. Neither did the first federal report on diet and chronic disease risk in 1977.[2] But because such recommendations called for significant changes in American eating patterns, the commodity groups and food manufacturers most affected—cattlemen, egg producers, sugar interests, and the canning and dairy industries—vehemently protested, as did some scientists, on the grounds that the evidence supporting diet-disease relationships was insufficiently compelling.[13] Despite the protests, most officials viewed the overall evidence as supporting this advice and continued to produce dietary recommendations that focused on the need to reduce food sources of fat.

ALCOHOL RECOMMENDATIONS

The change in scientific views of alcohol risks originated in the late 1970s with the earliest reports of associations between moderate drinking and reduced CHD risk.[14] Scientists at that time were perplexed by such reports, as they seemed to contradict research on the health hazards of alcohol intake. As the evidence for some health benefits of moderate drinking continued to accumulate, nutrition scientists ceased viewing alcohol as a drug to be avoided and gradually shifted to viewing it as a food that could be healthful when consumed in moderation. This change in perspective led to a shift in policy from "don't drink" to "if you must drink, drink moderately" to "if you do drink, drink moderately." These distinctions may seem subtle, but they reflect increasing recognition of the strong, consistent evidence linking moderate drinking to reduced CHD risk.[7] The history of this changing viewpoint is complex, mainly because it takes place within the overall context of changes in dietary guidelines that applied to the full range of major chronic diseases, not just to CHD. In this context, alcohol was a minor player, easily overlooked in the fierce debates about dietary fat.

The history begins with views of alcohol as a drug. For example, in 1978, concerned about biased argu-

ments used by the scientists who had opposed the recent dietary recommendations, the American Society for Clinical Nutrition convened a task force to review the strength of the evidence relating dietary factors to chronic diseases.[15] Task force members rated the strength of the evidence that linked specific dietary factors to specific diseases on a scale of 1 to 100, where a score of 100 indicated perfect association of a factor to a disease. Participants rated the causal association between alcohol and liver disease as 88, indicating that they found the evidence very strong. In contrast, they rated the association between alcohol and increased coronary risk as 13, finding this association very weak. The following year, the Surgeon General's first report on health promotion and disease prevention emphasized the importance of alcohol as a contributor to medical care costs through accidents, violence, liver cirrhosis, and cancers of the mouth, esophagus, and liver.[16]

Changes in the 1970s reflected consistent evidence linking moderate drinking to reduced CHD risk.

Also in 1979, the USDA issued a new food group plan that displayed the fruit/vegetable and bread/cereal groups above the dairy and meat groups. At the bottom, the guide included a fifth group of foods—fats/sweets/alcohol–that keep "bad nutritional company" and are high in calories but low in essential nutrients and fiber.[17] This publication was soon suppressed as a result of controversy over its apparent downgrading of the importance of meat, dairy, and processed foods. This controversy did not involve alcohol, however.

In 1980, to present a consensus on dietary recommendations to the public, the USDA and the Department of Health, Education, and Welfare jointly published the first *Dietary Guidelines for Americans*, which included the recommendation, "if you drink alcohol, do so in moderation."[18] This advice caused no particular reaction from Congress or the public, but the other recommendations induced a huge outcry, especially from the food industry.[9] In response, Congress ordered the agencies to appoint an advisory committee to revise the *Guidelines*.[19] As it turned out, this new committee supported the original text with few revisions. The second edition hardly differed from the original when it appeared in 1985, although it had replaced the word "alcohol" with "alcoholic beverages."[20] This wording was retained in the two subsequent editions.

Since 1980, dietary recommendations have proliferated and have been accompanied by increasing recognition of their fundamental similarity. Reports published by private agencies devoted to prevention of CHD and cancer have offered substantial support for the general principles of the *Dietary Guidelines* and, specifically, for advice to drink moderately, if at all.

Coronary Heart Disease. The AHA began to list alcohol as a dietary factor related to CHD risk in 1978, focusing on the fact that alcoholic beverages supply calories and, therefore, can contribute to obesity and high blood lipids.[21] In 1983, the American Medical Association "generally proscribed" alcoholic beverages for patients with elevated blood triglyceride levels,[22] as did a 1985 consensus panel of the National Institutes of Health.[23] In 1984, the National Heart Lung and Blood Institute identified alcohol restriction as one effective method to prevent or treat high blood pressure, a major CHD risk factor.[24]

New recommendations from the AHA in 1986 advised limits on alcohol intake of 15% of total calories (not to exceed 50 ml of ethanol per day) on the basis of evidence that no ill health was noted below that level, but that problems of excess are frequently observed and easily documented.[25] In 1988, the AHA specified a limit of 1–2 oz of alcohol per day, noting its association to increased risk of certain types of cancer, heart failure, obesity, and high blood pressure as well as to liver cirrhosis, and specifically advised against the use of alcohol as a means to prevent CHD.[26] In 1993, the AHA stated that for those who drink, alcohol intake should not exceed two drinks per day, and noted that people who consume less than two drinks per day display a reduced CHD risk compared with nondrinkers.[27] Despite this fact, the latest AHA report advises health professionals to give no advice that would lead people to start drinking or to increase their intake of alcohol, and to consult with patients about the advisability of even moderate drinking.[27a]

Agencies concerned with the prevention of CHD and cancer offered support to the advice to drink moderately, if at all.

Cancer. In 1979, an official of the National Cancer Institute testified before Congress that because alcohol was causally related to certain cancers, people should drink only in moderation.[28] Following publication of a major review that identified dietary factors as responsible for 25%–40% of all cancer deaths and alcohol as responsible for 2%–4%,[29] the National Research Council conducted a comprehensive review of existing research on diet and cancer and published interim dietary guidelines in 1982.[30] Despite criticisms that the evidence in this report was insufficient to warrant the development of such guidelines, the American Cancer Society[31] and other groups issued similar sets of recommendations during the next several years; these invariably have been to consume alcohol in moderation, if at all, on the basis of evidence linking consumption of alcoholic beverages of all types to causation of cancers at several sites.[32] As evidence for a causal role of alcohol in cancer con-

tinues to accumulate, dietary advice becomes more restrictive. The most recent guidelines from the American Cancer Society advise everyone to "limit consumption of alcoholic beverages, if you drink at all," and suggest that "women with an unusually high risk for breast cancer might reasonably consider abstaining from alcohol."[33]

Comprehensive Reports. In the late 1980s, two reports, one from the Public Health Service and one from the National Research Council, produced comprehensive reviews of research on diet and chronic disease risk. Both concluded that reduction of dietary fat should be the primary priority in public health nutrition efforts to prevent chronic disease, and both issued similar dietary recommendations. The *Surgeon General's Report on Nutrition and Health* emphasized the policy implications of its findings for nutrition education, services, and research. Its alcohol recommendation stated:

> To reduce the risk for chronic disease, take alcohol only in moderation (no more than two drinks a day), if at all. Avoid drinking any alcohol before or while driving, operating machinery, taking medications, or engaging in any other activity requiring judgment. Avoid drinking alcohol while pregnant... Alcohol is a drug that can produce addiction in susceptible individuals, birth defects in some children born to mothers who drink alcohol during pregnancy, impaired judgment, impaired ability to drive automobiles or operate machinery, and adverse reactions in people taking certain medications. In addition, alcohol abuse has been associated with disrupted family functioning, suicides, and homicide.[34]

This discussion admits that "although consumption of up to two drinks per day has not been associated with disease among healthy men and nonpregnant women," at least 9% of the population consumes more than that amount and this group needs to drink less.

The alcohol chapter of the *Surgeon General's Report* was drafted by officials of the federal agency then known as the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA). The chapter mentioned research findings that two or three alcoholic drinks per day reduce coronary heart disease risk but called for further study before drawing policy implications.

The rather prohibitionist approach of the recommendation, its text, and its supporting chapter can be explained by at least three factors. The first included uncertainties in the research, particularly regarding mechanism; the evidence at that time did not explain how alcohol might exert beneficial effects on coronary risk. The second was the Surgeon General himself, Dr. C. Everett Koop, a self-described evangelical Christian who viewed alcohol as an addictive drug. Dr. Koop has written: "When we convince ourselves. . .to say 'No!' to drugs such as alcohol and nicotine, we take charge of our health," and "alcohol is a toxic, potentially addictive drug, the greatest killer of America's youth."[35] The third factor was that members of Mothers Against Drunk Driving were encamped outside the Koop residence and were engaging in telephone harassment to pressure the Surgeon General to put as much effort into preventing drunk driving as he was into preventing cigarette smoking and AIDS. Thus, Dr. Koop was firmly opposed to allowing any statement in the report or recommendations that might even hint at any possible benefit of alcohol consumption.

The following year, the National Research Council published an even larger committee report summarizing even greater amounts of research on diet and health. The committee's alcohol recommendation, which was less tied to policy considerations, stated:

> The committee does not recommend alcohol consumption. For those who drink alcoholic beverages, the committee recommends limiting consumption to the equivalent of less than 1 ounce of pure alcohol in a single day. . . .Pregnant women should avoid alcoholic beverages. . . .Although several studies show that moderate alcohol drinking is associated with a lower coronary heart disease risk, it would be unwise to recommend moderate drinking for those who do not drink because, in the committee's judgment, a causal association has not been established and because even moderate drinking poses certain other risks, including the risk of alcohol addiction.[36]

Although the alcohol chapter in the report reviewed evidence for beneficial effects of moderate drinking on stress, happiness, euphoria, cognitive performance, and psychological well-being as well as improvements in blood lipid profiles, its overall conclusion was that "prudence suggests a lowering of or abstention from alcohol consumption." These reports were used as the scientific basis of the third edition of the *Dietary Guidelines for Americans*, published in 1990.

DIETARY GUIDELINES FOR AMERICANS

As noted earlier, the alcohol recommendation in the first two editions of the *Dietary Guidelines* drew no specific attention. The texts in these editions merely stated that alcoholic beverages tended to be high in calories and low in nutrients but that intake of one or two drinks a day appeared to cause no harm.

The text of the third edition, however, included the much stronger statements that although moderate drinking is linked to lower risk for heart attacks, drinking has no net health benefit and consumption is not recommended.[37] The ad-

1990 Guidelines indicated that drinking alcohol has no net health benefits and is not recommended.

visory committee preparing this version discussed these wordings at length. Some members argued for even stronger cautionary language ("alcoholic beverages are not recommended; if you drink at all, do so in moderation"); other members thought that such a guideline would be perceived as overly judgmental and too long and that it would draw undue attention to alcohol as an issue. The advisory committee viewed evidence related to moderate drinking and reduced coronary risk as weak. In any case, consumer focus groups thought the alcohol guideline irrelevant to their concerns.[38]

During the next few years, several events shaped development of the *1995 Dietary Guidelines*. Scientific evidence for the net health benefits of moderate drinking, at least in middle-aged men, accumulated to the point that it could no longer be ignored.[39] Most scientists took the conservative position that up to one drink a day for women and two for men seemed unlikely to be harmful, with the smaller amount for women based on less rapid ability to metabolize alcohol and suggestions of a small but disturbingly finite association to an increased risk for breast cancer. Because a decision about whether or not such amounts conveyed overall health benefits depended on factors such as age and sex, most scientists advised against recommending moderate alcohol intake to people who did not already drink.[40] A few, however, thought that public health efforts should support moderate drinking for its net health benefits.[41]

In 1995 most scientists advised against recommending moderate alcohol intake to people who did not drink.

Such encouragement drew support from promotion of the French and Mediterranean "paradoxes." In 1991, French researchers observed that the fat content of the French diet was as high as that in the United States, but CHD rates in France were much lower; they attributed this anomaly to the large amounts of wine, especially red wine, consumed in their country. After this work was discussed on the popular television program *60 Minutes*, sales of red wines greatly increased.[42] Later, a national conference on Mediterranean diets described how low-to-moderate wine consumption could be part of these healthful lifestyle patterns.[43] Quotations from speakers at this conference also have been used to promote wine sales.[44]

Despite the fact that most studies are unable to distinguish the effects of beer, wine, or spirits, the wine industry increasingly has publicized research findings to equate the term "moderate drinking" with drinking wine. In October 1992, the Bureau of Alcohol, Tobacco and Firearms permitted Beringer Vineyards to hang a tag from its bottles with a quotation from the *60 Minutes* broadcast that ". . .alcohol, in particular red wine, reduces the risk of heart disease." Other federal agencies protested, however, and the tags were immediately withdrawn.[45]

Despite this setback, the industry has become increasingly aggressive in promoting wine as a health food. Of the 152 written public comments submitted on the alcohol guideline, 88 supported a more positive statement about moderate wine consumption and health.[46] Many of these comments were identical in wording and clearly written in response to an organized campaign. Whether committee members were impressed by these comments cannot be known; most of us were already quite familiar with the science. Indeed, we were quite startled by testimony from a representative from Women for WineSense who argued that advice to restrict moderate drinking during pregnancy was not warranted by the evidence and "may cause unnecessary anxiety."[47] We thought anxiety a small price to pay for prudence in a situation in which the minimum amount of alcohol harmful to a fetus was uncertain.

The committee also judged as imprudent any suggestion that the government should encourage—or at least not discourage—moderate drinking in the population. Dr. Curt Ellison made just such a suggestion on a more recent *60 Minutes* broadcast devoted to wine and health:

> It seems quite clear that we should not do anything that would decrease moderate drinkers in the population. I think that would be bad for the public health.[48]

In summary, the committee followed mainstream scientific thought in writing the alcohol guideline. We wrote the text to strike a prudent balance between the troublesome health and societal risks of alcohol abuse, and the apparent benefits of moderate drinking on CHD risk. Our discussions emphasized that there are many other ways besides drinking to reduce CHD risk. We especially wanted to be cautious in recommending even small amounts of alcohol to women whose risk of breast cancer might increase. To committee members, this conservative viewpoint—based on scientific rather than marketing or moralistic considerations—hardly seemed like news.

The 1996 committee followed mainstream scientific thought in writing the alcohol guideline.

Critics, however, judged the committee's views as naive, at best. An anonymous investigative report by the Marin Institute, an organization devoted to the prevention of alcohol and other drug problems, singled out two items in the *Dietary Guidelines* as of particular significance: the sentence about enhancement of the enjoyment of meals by alcohol and the deletion of the words "physiologic drug" in reference to the effects of excessive consumption of alcohol. These two

words were eliminated from the committee's final report by the sponsoring agencies. According to the Marin Institute, this change was made as a result of intense lobbying by the Wine Institute.[49] If this charge is correct, the new alcohol guideline provides further evidence for the importance of politics as an influence on federal dietary guidance policy.

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