# Consumer Trends in Fats and Sweets: Policy Options for Dietary Change

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The following topics are examined in this paper to illustrate how dietary quality improvements may be overestimated: trends in fats, added sugars, and the percent of energy contributed from fat. Although a variety of policy and regulatory options are available to improve diet, the difficulty of making basic structural changes in people or society makes sustained change challenging. The issue attention cycle is used to illustrate a possible background to the rise and decline in interest given to healthy diet by the U.S. population.

Despite recent changes in the food supply and a wide range of health promotion efforts to improve consumers' dietary practices, the U.S. diet still needs improvement. During the past decade, the overall quality of the U.S. diet has failed to attain the overall food pattern and nutrient intake recommendations suggested by the U.S. Dietary Guidelines (USDA and USDHHS, 1995), the Food Guide Pyramid (USDA, 1992), and the Dietary Reference Intakes (Yates, 1998) of which the Recommended Dietary Allowances (RDAs) are now one part. As measured by both the *Diet Quality Index-Revised* (Haines, Siega-Riz, and Popkin, 1999) and the *Healthy Eating Index* (Kennedy et al., 1999), American consumers score only about 63 out of 100 possible points in achieving a dietary pattern, which meets national guidelines for healthy eating. From a public health and policy perspective, it is important to identify meaningful avenues for dietary behavior change.

First, in my opinion, consumer interest in good nutrition (as defined by attaining and maintaining a healthy eating pattern) has peaked. Second, although there have been some positive trends in the quality of the diet, some of the indicators used to describe diet quality have overestimated the extent of positive changes. Finally, although a variety of government policy and regulation options may be available to theoretically improve dietary trends to the desired levels, the difficulty of making basic structural changes in people or society makes it more difficult to build and sustain sufficient public and political interest to actually accomplish widespread meaningful behavior change. This short-term perspective is a barrier for environmental change, such as changes in the food supply that enhance the numbers of fat- and sugar- modified products available, as well as efforts directed at changing consumer demand and behavior through interventions conducted individually as well as in work sites, schools, and faith communities.

In order to better illustrate how dietary patterns have changed and some of the nutritional consequences of such changes, the consumption of percent of energy from fat and fat and sweetener intake behaviors are examined in this paper as part of a case study. It is shown that it is not only important to monitor nutrient intakes at the population level, but it is also critical to understand the dietary patterns that contribute to nutrient trends. Factors related to changing levels of consumer interest and concerns about diet and health are reviewed in the discussion. A theoretical model initially defined in the political science literature, the "issue attention cycle," is used to provide one context in which to discuss the relative feasibility of a range of potential policy instruments with the potential to improve diet quality, in general, and to reduce fat intakes, in particular.

### Background

Every year the Food Marketing Institute (FMI) conducts consumer surveys regarding a variety of opinions related to shopping, health, and nutrition practices (FMI, 1987, 1994). In the most recent survey conducted in 1999, 68 percent of consumers said that their diets needed improvement, and 49 percent indicated that they were very concerned about the nutritional content of the food that they eat. While this is a significant number, if one examines the trends in the data, the numbers take on new meaning. In 1983, 64 percent of consumers surveyed by FMI (1987)

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indicated that they were very concerned about the nutritional content of the food that they eat. By 1990, the percentages of consumers who were very concerned about nutrition had declined to 55 percent, but numbers climbed to highs of 64 percent and 62 percent in 1992 and 1994, respectively. However, since that time, the numbers of consumers reporting that they are very concerned about nutrition declined to the 49 percent level in 1999.

What factors may have contributed to the trends in interest and concern about nutrition among consumers? Over time, a number of public and private policies and programs have contributed to nutritional awareness. For example, fortification programs for cereal-grain products were instituted in the 1940s to improve the quality of the food supply (McNamara, 1995). Such practices served to heighten consumer awareness of the nutrient contribution of selected foods. While not given statutory power to set limits on fortification and enrichment, between 1962 and the early 1970s, the Food and Drug Administration attempted to limit the addition of fortification and enrichment nutrients (Quick and Murphy, 1982; Subar and Bowering, 1988). During the 1970s, a more liberal regulatory environment allowed a widespread increase in fortification of ready-to-eat cereals, and by the late 1970s, most cereals included some kind of enrichment. Coupled with voluntary use of the nutrition label by the manufacturer, the consumer had increased access to new nutrient content information. Fortification also allowed product differentiation, which producers used in marketing efforts that also increased consumer awareness of cereal attributes regarding nutritional content.

During the early 1980s, a variety of public awareness campaigns served to increase consumer knowledge of the associations between diet and chronic disease. For example, the Food and Drug Administration (FDA) and the National Institutes of Health (NIH) National Heart, Lung, and Blood Institute (NHLBI) promoted sodium and hypertension public awareness campaigns. The NHLBI also developed and disseminated the National Cholesterol Education Program (NCEP) as another example of a public awareness campaign directed at increasing consumer awareness of the relationship between diet and the risk of coronary heart disease (Ernst et al., 1988; USDHHS, 1989; Mathios and Ippolito, 1999).

In 1984, the Kellogg Company, with the sanction of the National Cancer Institute, provided the first producer health claim used as part of product advertising. This not only created an increased market share for all high-fiber cereals, but it also appeared to fill an untapped consumer niche for diet-related information. An industry supply response was also observed in the creation of new higher-fiber cereals. Adult-oriented cereals introduced between 1985 and 1987 contained an average of 3.6 grams of dietary fiber per serving in contrast to the average of 2.0 grams of dietary fiber per serving for cereals introduced between 1978 and 1984 (Mathios and Ippolito, 1999; Zarkin and Anderson, 1992).

The promotion of health claims—as well as nutrient content descriptors, such as "fat free" and "low fat" printed as part of the food label or on other parts of packaging—was controversial (Forbes, 1986; Geiger, 1998) and generated a variety of efforts at food label reform. These efforts included the 1989 appointment of an Institute of Medicine "Committee on the Nutrition Components of Food Labeling" (Porter and Earl, 1990); a 1990 set of FDA proposals for revised food labels; and the 1990 federal passage of the Nutrition Labeling and Education Act (NLEA) legislation, mandating not only the revised "Nutrition Facts" panel on all packaged foods but also standards related to the presence of health claims and nutrient content claims. Perhaps coincidentally, in 1992, the highest proportion of the population expressed concern about the nutritional content of their food—in part due to heightened awareness created by mandatory nutrition-labeling. Similarly, the food industry responded to NLEA by taking advantage of the strengthening consumer interest in nutrition by formulating new products that could meet the new label guidelines and nutrient content claims. These "low saturated fat," "low sodium," "reduced calorie" products, for example, met consumer demand for foods that would address the interest in reduced fat and calories and that could also be promoted within the nutrient standard guidelines (Caswell, 1992). As reported in a recent International Food Information Council (IFIC) survey of diet- and health-related reporting across a variety of media sources, restriction of dietary fat intakes and the relationship between dietary fat and chronic health conditions was the predominant source of diet and health association to receive media attention, nearly to the exclusion of all others. Thus, consumer at-

tention was focused on fat intake as a risk factor, and the food industry was promoting healthy foods through both product-labeling efforts as well as new fat-modified products.

The Dietary Supplement Health and Education Act (DSHEA), passed as legislation in 1994, provides one possible signal that consumer attention on "nutrition" has been refocusing on the growing area of foods produced through new technologies and dietary supplements. Whereas functional foods may be defined as food products that contain elevated levels of some bioactive agent normally obtained from foods (and thus are regulated as foods are), the DSHEA referred more explicitly to the growing numbers of products intended for ingestion as a pill, capsule, or powder, rather than a food, per se. This included, but was not limited to, vitamins and mineral supplements as well as products that focus on supplemental intakes of phytochemicals, botanicals, and herbals. Although the regulatory status defined by the DSHEA does not require the same kind of efficacy or safety determination that is required of food additives, the public is perceived to believe that the growing number of dietary supplements can convey significant health benefits.

Coupled with an increased news presence in which the putative health benefits of any number of nutrients and food and supplement constituents is increasingly reported on the 6 o'clock news, it would appear that consumer confidence that a healthy diet is based on foods, rather than supplements or functional foods, has been eroded. These public attitudes parallel the declining FMI numbers noting those reporting concern with nutrition.

## Dietary Trends

What evidence exists to support consumer food behavior change? During the past 35 years, there has been a consistent suggestion that diets have been getting healthier. The percent of energy from fat has declined from 41 percent among individuals surveyed as part of the 1977–78 USDA Nationwide Food Consumption Survey (USDHHS and USDA, 1986) to about 32 percent among those surveyed as part of the 1994–96 USDA Continuing Survey of Food Intake by Individuals (Tippett and Cleveland, 1999). Since the 1970s, national dietary guidance had recommended that the percent of dietary energy contributed from fat be restricted to 30 percent. Per capita consumption of beef and pork has dropped precipitously, and whole milk consumption has been replaced, in part, by substitutions of lower-fat fluid milks (Popkin, Siega-Riz, and Haines, 1996). On the surface, this might suggest that the diet is becoming healthier. A case study is used to examine trends in the measure "percent of energy from fat" to illustrate how consumer intake in fat and sweeteners may be changing and why. Table 1 indicates that the decline in percent of energy from fat, between 1977 and 1996, is seen for males and females of all ages. Table 2 suggests that persons 50 years of age and younger increased relative caloric intake more than did persons older than 50. Also, persons older than 50 decreased absolute fat intake more than did younger persons.

**Table 1. Percent of Energy from Fat Trends, by Age Group and Gender, 1977–78 through 1994–96.**

| | 1977–78 | 1994–96 |
|---|---|---|
| Males | | |
| Ages 12–18 | 37.6 | 33.2 |
| Ages 19–50 | 38.6 | 33.8 |
| Ages 51–70 | 38.6 | 33.8 |
| Ages 71 and older | 37.7 | 32.9 |
| Females | | |
| Ages 12–18 | 37.1 | 332.3 |
| Ages 19–50 | 38.1 | 32.9 |
| Ages 51–70 | 37.7 | 32.3 |
| Ages 70 and older | 36.4 | 31.8 |

Source: NFCS (1977–78) and CSFII (1994–96).

**Table 2. Differences in Relative Calorie and Absolute Fat Intakes, 1977–78 through 1994–96.**

| Age Group | Calories 1994–96 Males | Fat (grams) 1994–96 Males | Calories 1994–96 Females | Fat (grams) 1994–96 Females |
|---|---|---|---|---|
| 12–18 | +12% | - 1 g | + 7% | -5.1 g |
| 19–50 | +14% | +0.4 g | +12% | -1.8 g |
| 51–70 | +4% | -7 g | +3% | -6 g |
| 70 and older | -2% | -10.8 g | +0% | -7 g |

Source: NFCS (1977–78) and CSFII (1994–96).

The percentage increase in teaspoons of sugar consumed by age group and gender between 1977–78 and 1994–96 is shown in Table 3. A clear age differential exists, with the largest increases occurring for those 50 and younger. The disproportionately greater increase in added sugar among younger age groups supports the suggestion that, despite the fact that persons of all ages are decreasing the percent of energy consumed from fat, the way in which this occurs differs by age. That is, older populations are maintaining steady caloric intake and decreasing absolute fat intakes. Younger populations have a much smaller decrease in absolute fat intakes—men 50 and younger show no decline at all. But caloric intake is increasing, so among younger persons, the relative fat density (for example, the percent of energy from fat) is declining more because of increased overall caloric intakes rather than fat intake reductions.

**Table 3. Percent Increases in Added Sugars, by Age Group and Gender, 1977–78 through 1994–96.**

| Age Group | Males | Females |
|---|---|---|
| 12–18 | 51% | 37% |
| 19–50 | 35% | 35% |
| 51–70 | 20% | 19% |
| 70 and older | 2% | 8% |

Source: NFCS (1977–78) and CSFII (1994–96).

The most striking increases in food sources of added sugar were observed in the consumption of carbonated beverages. Added sugars from carbonated beverages increased more than 100 percent in younger males and more than 70 percent in younger females. Soft drinks contributed approximately 40 percent of the total added sugar to the diets of persons age 50 and younger in 1996. In contrast, 51–70 year-olds still consumed about 20 percent of added sugar as soft drinks, and those 70 and older consumed about 12 percent. Fruit drinks were a growing source of added sugar, with a high of 12 percent of added sugars in teens.

The dietary trend data for fats and sweeteners suggest that, over time, decreases in fat have been accompanied by increases in sugars and calories. Although a sizable proportion of consumers express interest and concern about nutrition, there are a number of paradoxes. The percent of energy from fat is declining, but obesity is increasing. Within diet, there have been declines in absolute levels of fat among some but not all age groups. There have been increases in sugars intake associated with consumption of increasing quantities of sweets, soft drinks, desserts, dairy and grain products, and coffee and tea. Caloric intakes have increased in some age and gender groups. If consumers believe that nutrition (and a low-fat diet) are important and the food supply has made it easier to consume less fat, then why are overall diets not healthier? One suggestion is that we have observed a tradeoff between taste and nutrition. That is, when fat is reduced in savory products, such as desserts or grains, how is taste maintained? Observation would suggest that substitutions of added sugar for reduced fats are part of the tradeoff, contributing potentially to the overall increase in population caloric intake and, in part, explaining why younger adults who are eating more sugars and calories are also experiencing a decline in the measure of the percent of energy from fat.

## Policy Implications for Dietary Change

So, in order to examine the rise and fall in consumer interest about nutrition and to evaluate why additional policy efforts have not been implemented to address fat and caloric intake trends, one may look to the political science literature of the 1970s. A model was suggested to identify why some public problems come to be defined as "social problems" and thus enter the polity of public attention and action while others do not (Downs, 1972). The five stages of the issue attention cycle are summarized in Table 4.

**Table 4. Stages of the Issue Attention Cycle.**

- Pre-problem stage
- Alarmed discovery and euphoric enthusiasm
- Realizing the cost of significant progress
- Gradual decline in intense public interest
- Post-problem stage

Source: Downs (1972).

In the "pre-problem stage," objective data may be available that define a problem as a public health problem. But, without enough individuals or decision-makers thinking that the issue is a problem, the presence of objective data alone (for example, evidence of elevated dietary fat intakes) may not be sufficiently salient or relevant to a wide enough set of stakeholders to define the issue

as a social problem for public attention. In order to get beyond the pre-problem stage (and many problems never get past this stage) into the "alarmed discovery and euphoric enthusiasm" stage, the problem must attain a "social problem definition," through some aggregation of public sentiment, that reaches the level of decision-makers. If one thinks about elevated dietary fat intake as a public problem, objective data regarding fat intakes existed for some time without direct policy intervention efforts (Sims, 1998). Dietary recommendations, in the form of things like the Dietary Guidelines for Americans (USDA and USDHHS, 1995), emerged as evidence of the growing consensus of the relationship between fat and disease. Media coverage of dietary fat and disease contributed to growing numbers of individuals feeling individually susceptible and thus more likely to be supportive of public actions. A recent survey by IFIC indicated that overwhelming attention is being given to the importance of dietary fat restriction, to the exclusion of coverage for most other nutritional issues, supporting a growing desire at the population level to "do something" about elevated fat intakes. In our case scenario, assume that the population becomes "aware" of the dangers of fat but that they are enthusiastic that a solution can be found for the problem.

If fat intake were to be a socially defined problem in the issue attention cycle, which gained the attention of legislators, what might be the structural regulatory changes, which might be legislated to reduce fat intake? Four possibilities include nutrition labeling, nutrition education at sites other than the point of purchase, incentives to promote the availability of low-fat products (supply incentives), or taxation policies as disincentives to reduce intakes of fat-containing foods (Foster, 1992; Lee and Geistfeld, 1998). Stage three of the issue attention cycle suggests that consumer interest in any socially defined problem declines with the recognition of the cost of significant progress. Let us briefly evaluate each of the above options in this context.

Application of nutrition label information would not carry a significant cost to consumers although it did exert a cost to the food industry when food-labeling was mandated by the 1990 NLEA. In addition, one would assume that there would not be undue externalities—for example, there would not necessarily be significant winners and losers with this option to reduce fat intake. However, many argue that the relative efficacy of merely increasing the availability of fat content information is low and would not be great enough to achieve the desired fat intake reduction in many segments of the at-risk population (Levy, 1998).

Significant nutrition education efforts, directed at reducing fat intake and increasing fruit and vegetable intakes, have been made in the 1990s. These efforts have occurred in a variety of settings, including churches, school, and work sites. However, the effects of such interventions have frequently been small or have not been sustained over time, suggesting that behavior change requires more than traditional educational efforts. Nutrition education efforts are often funded from the pool of scarce public resources; therefore, policy decisions to fund nutrition education efforts should be based, in part, on the relative cost effectiveness of the alternatives designed to achieve not only changes in knowledge but also changes in the desired dietary behavior outcomes.

In the case of taxation as a policy instrument to achieve behavior change, there would be significant controversy. The legal authority to tax harmful substances is currently in use to restrict the intake of selected products—for example, we tax alcohol and tobacco. But adoption of such policy would be met with significant resistance from producer stakeholders as well as from the consuming public who hold dear the right to choose among the variety of foods available.

On the food producer supply side, significant efforts have been made to develop new foods that reduce the fat burden, but products do not stay on the market if they are not profitable, albeit socially desirable (Smith, 1999). If a profitable market for newly designed healthy foods cannot be sustained (McDonalds, Kellogg Corporation, and the Campbell Soup Company are recent examples), the manufacturer will return to more profitable products—note the trends toward up-sizing and larger portions.

The issue attention cycle suggests that, because structural (environmental) change takes time and often imposes significant costs on both public and private stakeholders, the public is likely to perceive the cost of change as too high and diminish further interest in the problem. This coincides with stage four of the issue attention cycle—"gradual decline in intense public interest."

What happens when the available policy/programs options either do not work very well,

are too expensive, or cost too much in terms of time, effort, or deprivation? When the difficulty of achieving a sustainable solution to the problem is perceived by the population, it is more likely that attention will shift to another issue or another "fix" to the old problem. In the case of elevated fat intakes, the emergence of botanicals and herbals is not a fix to the fat problem, but it does provide a new niche for consumer energy and "can do" attitude without having the baggage of needing to make people change the foods they like to eat. This reflects the last stage of the issue attention cycle, the "post-problem stage," in which interest and efforts are redirected.

Media news and advertising suggest that nutrition is still an important and marketable issue. But food consumption-based evidence suggests that healthful dietary change will not be sustained unless the issues of taste and enjoyment are addressed in addition to issues of nutrition. The manipulation of the food supply has created a range of consumable products that can legally be labeled as healthy. But the population has not yet attained an overall healthy dietary pattern of different kinds of foods consumed on a regular basis (as opposed to the consumption of selected individual foods that are "healthy"). In our current environment, the purge of fat from so many foods has been replaced with a sensory increase in sweetness, helping to contribute to increasing caloric intakes. In addition, the consumer can more easily choose to think that they are addressing their own nutritional concerns and "eating healthy" by consuming any one of the new list of dietary supplements or herbals and botanicals that are promoted as healthful.

My conclusion to the question, "Is consumer interest in nutrition declining?," is yes—if nutrition is defined broadly in terms of overall healthy patterns of eating. The issue attention cycle suggests that, currently, there are other issues that "cost" less to fix—take an echinachea or genistine supplement and still think that you are consuming the range of things you need to stay healthy.

From a public policy perspective, I think that we need to creatively consider different incentives, from both the consumer and supply sides, in order to accomplish sustainable positive dietary change. The social cost of changing fat intake patterns is high, so public policy incentives for both producers and consumers will be needed to accomplish significant widespread dietary change. Regaining center stage for solving the public health problem of elevated fat intakes will not be easy because a modest decline has been observed in fat intakes in selected segments of the population and because public interest has shifted to other problems that exert less personal cost and that are easier to change.

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