



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



The Food Industry Center
UNIVERSITY OF MINNESOTA

Working Paper 03-04
The Food Industry Center
University of Minnesota
Printed Copy \$25.50

THE OBESITY CRISIS: CHALLENGE TO THE FOOD INDUSTRY

Benjamin Senauer

August 2003

Benjamin Senauer, Professor, Department of Applied Economics, and Co-Director, The Food Industry Center, University of Minnesota, St. Paul, MN 55108-6040, e-mail: bsenauer@appec.umn.edu.

The work was sponsored by The Food Industry Center, University of Minnesota, 317 Classroom Office Building, 1994 Buford Avenue, St. Paul, Minnesota 55108-6040, USA. The Food Industry Center is an Alfred P. Sloan Foundation Industry Study Center.

THE OBESITY CRISIS: CHALLENGE TO THE FOOD INDUSTRY

Benjamin Senauer

ABSTRACT

Rising rates of overweight and obesity pose a major challenge to the food industry. The industry has the opportunity to take positive steps to become part of the solution, rather than part of the problem, which is the increasing perception. By 1999-2000 almost two-thirds of American adults were overweight or obese. The percentage of overweight children and adolescents rose by about three fold between 1980 and 2000. Overweight and obesity are now considered a serious health care crisis, with increased risk of many serious diseases. The added health care costs have been estimated at \$732 annually for every American.

The gain in weight is the result of eating more combined with less physical activity. Three areas are getting particular attention. The increase in portion sizes. The potential legal liability of food companies. And the foods and beverages available at schools, as well as the disappearance of physical education as part of the curriculum. If progress is to be made, people will need to develop healthier eating and exercise habits. The food industry can contribute to both. Some companies, such as Kraft Foods and Subway are emerging with proactive strategies. Community programs which encourage physical activity, such as Colorado on the Move, and now America on the Move, are drawing increasing attention. With a shift in attitudes toward “less can be more” and quality over quantity, food spending might actually increase, which suggests there may be a “silver lining” of opportunity for savvy food companies.

Working Paper 2003-04
The Food Industry Center
University of Minnesota

**THE OBESITY CRISIS:
CHALLENGE TO THE FOOD INDUSTRY**

Benjamin Senauer

Copyright © 2003 by [Benjamin Senauer]. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

The analyses and views reported in this paper are those of the authors. They are not necessarily endorsed by the Department of Applied Economics, by The Food Industry Center, or by the University of Minnesota.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

For information on other titles in this series, write The Food Industry Center, University of Minnesota, Department of Applied Economics, 1994 Buford Avenue, 317 Classroom Office Building, St. Paul, MN 55108-6040, USA; phone (612) 625-7019; or E-mail tfic@apec.umn.edu. Also, for more information about the Center and for full text of working papers, check our World Wide Web site [<http://foodindustrycenter.umn.edu>].

TABLE OF CONTENTS

| | |
|---------------------------------------|----|
| THE DIMENSIONS OF THE CRISIS | 3 |
| WHY ARE AMERICANS GAINING WEIGHT..... | 8 |
| LEGAL PERSPECTIVES | 15 |
| MOVING TOWARDS A SOLUTION | 18 |
| LOOKING AHEAD | 29 |
| ENDNOTES..... | 32 |
| REFERENCES | 41 |
| FIGURES AND TABLES | 48 |

TABLES & FIGURES

| | | |
|----------|---|----|
| Figure 1 | U.S. Obesity Trends 1993 to 2001 (percent of adult population obese by state) | 48 |
| Figure 2 | Overweight in Children and Adolescents | 48 |
| Figure 3 | Calories from the U.S. Per Capita Food Supply | 49 |
| Table 1 | U.S. Trends for Overweight, Obesity and Severe Obesity | 50 |
| Table 2 | Obesity Trends in Other Countries (percent of the adult population) | 50 |

THE OBESITY CRISIS: CHALLENGE TO THE FOOD INDUSTRY

The dramatic growth in obesity and overweight among Americans has become a hot topic, receiving widespread attention in the media. To name just a few examples, the August 19, 2002 cover of U.S. News and World Report proclaimed in big letters, “Super Size America: How Our Way of Life is Killing Us”. The title of an October 21, 2002 article in Business Week was “Why We’re So Fat”. The cover of Fortune on January 21, 2003 asked, “Is Fat the Next Tobacco?.” With 64.5 percent of American adults overweight or obese, 30.5 percent actually obese, and 15 percent of children and adolescents obese in 1999-2000, the problem is now considered a major health crisis, and is being referred to as an epidemic by many in the medical community. All ages, racial and ethnic groups have seen increases in obesity and overweight.¹

Overweight and obese persons have an increased risk of Type 2 diabetes, most cancers, high blood pressure, heart failure, stroke and a number of other diseases. The number of people diagnosed with diabetes, a disease with many serious consequences, more than doubled in the 20-year period, from 5.76 million in 1980 to 12.01 million in 2000.² The rate of increase has been even worse for some minorities. The incidence of diabetes increased by 71 percent for American Indian and Alaska Native children, adolescents and adults aged 35 years and younger in just the eight years from 1990 to 1998.³ The shocking increase in diabetes among Americans is directly related to overweight and obesity.

Increasingly, the food industry is perceived as a substantial part of the problem. The industry needs to develop a proactive strategy to become part of the solution to this crisis, if it is to avoid potentially onerous government intervention, reduce the risk of legal liability and avoid damage to its public image. Above all, it is really only with the positive engagement of the food industry that there will be any real chance of making substantial progress against this obesity crisis.

The epidemic of obesity and overweight simply results from individuals consuming more calories than they burn. The typical person will gain one pound of weight for each approximately 3,500 excess calories consumed, which are not utilized to fuel basic metabolism or physical activity. If a person eats on average just 100 excess calories per day, they can be expected to gain some ten pounds in a year.⁴ However, the underlying causes for this increasingly widespread imbalance of consumption and activity are much more complex.

In many ways, the growing prevalence of obesity and overweight is a reflection of the enormous success of the U.S. food system. Food that is cheap and palatable, and frequently high in caloric content, is widely available. Humans developed over tens of thousands of years in which the essential problem for most people was getting enough to eat, not too much. Food was scarce, and subject to periodic severe shortages. Obtaining food by farming, hunting or foraging typically required heavy physical exertion. Individuals who could efficiently store any excess calories as body fat when food was relatively plentiful were at an advantage. Now with plentiful food and little need for

strenuous physical exertion for most Americans in their work or daily lives, the environment has changed dramatically with virtually no change in human physiology.

Traditionally obesity and overweight have been generally viewed as an issue of personal responsibility. However, with the enormous attention now being focused on this issue there is a transition from blaming the individual to blaming society, and the food industry in particular. Given the serious consequences of obesity and overweight for public health, there is a growing sense of urgency that significant public action is necessary. The food industry can not afford to take a passive or defensive position. Specifically, individual food companies, and the industry in general, can develop proactive strategies that allow them to become part of the solution, rather than being widely perceived as a part of the problem, as they increasingly are.

THE DIMENSIONS OF THE CRISIS

Some 127 million American adults were overweight in 1999-2000, 60 million obese and 9 million severely obese. The measure used is body mass index (BMI), which is based on a person's weight and height. It is determined by dividing a person's weight in kilograms by their height in meters squared, which is equivalent to their weight in pounds divided by their height in inches squared times 703. A person with a BMI of 25 or more is overweight, with a BMI of 30 or more obese, and with a BMI of 40 or more severely obese. The BMI cutoff for overweight in the United States was lowered from 27 to 25 in 1998 to match the international standard used by the World Health Organization (WHO),

which obviously raised the number counted as overweight. Figure 1 showing the prevalence of obesity by state conveys a strong message concerning the rise in obesity to the level of a major public health crisis.⁵

Trends and Patterns of Overweight and Obesity

Table 1 shows the substantial and continuing increase in overweight and obesity in the United States starting around 1980. The proportion of the population that is overweight increased by 40 percent and that which is obese by 118 percent between 1976-80 and 1999-2000.⁶ Figure 2 depicts the even more troubling rise in obesity among children and adolescents. Between 1980 and 2000, the percentage of adolescents who are overweight rose more than three fold and for children only slightly less than three fold. In this case obesity is defined by the 95th percentile of the gender-specific BMI-for-age growth charts. There is a direct correlation between the surge in obesity and increasing appearance of Type II diabetes among adolescents. Type 2 diabetes has traditionally been referred to as adult-onset diabetes, but now doctors are seeing its growing occurrence among those less than 20 years old.

In terms of variations in the incidence across different subgroups in the population, the likelihood of being obese increases with age for both men and women, peaking for men for ages 65-74 at 33.4 percent and for women for ages 55-64 at 38.8 percent in 1999-2000. Interestingly, the obesity rate is only 20.4 percent for men 75 and older and 25.1 percent for women 75 and older, which partially reflects the shorter life expectancy of those suffering from obesity. The incidence of overweight (BMI \geq 25) is higher for men

and that of obesity (BMI \geq 30) is higher for women.⁷ Although obesity has increased across all education levels over time, it is substantially less widespread among people with more education. For those with less than a high school education the rate was 26.1 percent and for those with a college education only 15.2 percent in 2000.⁸ Obesity is some 50 percent more prevalent among women of lower socioeconomic status, in this case with a household income of less than 130 percent of the poverty level, than those with higher incomes.⁹

Obesity is more prevalent in the South and the Midwest than on either Coast and the highest rate is in the poorest state, Mississippi. In terms of ethnic and racial groups, African Americans have both one of the highest incidences of obesity and of diabetes. Among African American and Mexican American children and adolescents overweight and obesity are both considerably more common than among non-minority children and adolescents. The obesity rate was 23.6 percent for black, 23.4 percent for Mexican American and 12.7 percent for white non-Hispanic adolescents.¹⁰ Some 69 percent of non-Hispanic black women were overweight or obese in 2000.

Health Consequences

Since overweight and obesity are risk factors in so many serious diseases the health consequences of this epidemic are grave and growing worse. "The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity" makes it clear that the primary concern is one of health and not appearance.¹¹ It estimates that 300,000 deaths annually are overweight and obesity related. The risk of death from all causes is 50 to

100 percent greater for those who are obese compared to those with a healthy weight. Within the next several years the number of deaths that are obesity-related are predicted to exceed those that are tobacco-related. More than 80 percent of people with diabetes are overweight or obese and a gain in weight of just 11-18 pounds doubles the risk of developing Type 2 diabetes. The incidence of asthma, arthritis, and sleep apnea, all increase with excess weight, as does the risk of several types of cancer. The risk of post-menopausal breast cancer is twice as great for women who gain more than 20 pounds between age 18 and midlife. A recent study published in the New England Journal of Medicine, which involved 900,000 adults over 16 years old, found excess weight to be a major risk factor for most types of cancer. Deaths from all cancers were 52 percent higher for the heaviest men in the study group and 62 percent higher for the heaviest women compared to those of normal weight. It was estimated that 90,000 cancer deaths a year could be prevented if American adults all maintained a healthy weight (a BMI less than 25).¹²

An analysis by Wolf and Colditz, estimated the total economic costs of obesity at \$99.2 billion in 1995.¹³ This figure would have risen substantially since then. Some \$51.64 billion were direct medical costs and the remainder indirect costs due to lost output resulting from illness or death. The “Surgeon General’s Call to Action” put the annual economic costs of obesity at \$117 billion in 2000. The U.S. Centers for Disease Control and Prevention (CDC) estimated annual per capita U.S. health care expenses were \$732 higher because of obesity and overweight. Medical costs averaged 37 percent more for

those who are obese and overweight than those of normal weight.¹⁴ The costs are likely to rise substantially in the future.

A Global Problem

Overweight and obesity have become a growing global problem of serious concern for health. Table 2 provides obesity rates for several other major industrial countries.¹⁵

Although the rates are below those in the United States in every country, and well below in most cases, the prevalence of obesity is increasing in each of these countries. Stephan Rossner, an expert, has said, “There is no country in the world where obesity is not increasing. Even in developing countries we thought were immune.” Although one might find a few countries in which this is not the case, Rossner’s statement is essentially true. He continued that, “the frightening thing is that so far nobody has succeeded in stopping it.”¹⁶

The Worldwatch Institute estimates that there are some 1.1 billion people in the world who are undernourished in terms of not getting enough calories, but there also now an estimated 1.1 billion who are overnourished.¹⁷ The World Health Organization (WHO) estimates that the number of adults who suffer from obesity globally was over 300 million in 2000, an increase of 50 percent since just 1995, when the estimate was 200 million.¹⁸ In the Middle East and North Africa over 40 percent of women 15 to 49 years old are overweight or obese and in Latin America about 35 percent are.¹⁹ The basic causes are the same as in the United States: changing food habits and less physical activity.

In developing countries, overweight and obesity are increasing most among the emerging urban, middle class in Third World cities, and especially among their children.

According to an article in The New York Times, obesity is becoming an especially acute problem among children of the more well-to-do in the cities of China and other Asian countries with high rates of economic growth.²⁰ They are eating more processed and fast foods with lots of sugar and saturated fats and leading much more sedentary lives than in the past. China now even has special “fat-reduction” hospitals for children. As in the United States, the real alarm is over the long-term health implications. Experts are predicting that the incidence of diabetes worldwide will triple in the next 15 years to affect some 320 million people, more than the current U.S. population.²¹

WHY ARE AMERICANS GAINING WEIGHT

If overweight and obesity are the result of an energy imbalance, with calories consumed exceeding calories used, what has changed in the last 20-25 years to cause the number of overweight and obese Americans to increase so markedly. Body weight is the result of genes, metabolism, behavior, environment, culture and socioeconomic factors.²² Since human biology has not changed in the last quarter century, changes in behavior and environment have almost certainly played the major role in the increase in overweight and obesity.

The evidence is that over the last 20-25 years the average American is eating more and in many cases burning fewer calories due to less activity. Figure 2 provides a powerful message. The calories available per capita, adjusted for losses, have increased some 20 percent between 1982 and 2000.²³ The per capita food supply, again after adjusting for losses, exceeds by several hundred calories the daily Recommended Energy Allowance (RDA) of 2,247 calories, which is an average that reflects the age and gender composition of the U.S. population. Americans have increased, in particular, their consumption of refined grains, in such products as pasta and tortilla chips, fats and oils, in such products as cheese and salad dressing, and caloric sweeteners, especially corn sweetener in such products as soft drinks. In each of these categories average consumption exceeds the recommendation for a healthy diet, while the typical American consumes too few whole grains, vegetables and fruits.

The average American has also become less physically active. There is little physical activity involved with the majority of jobs today and most peoples' daily lives require relatively little physical activity. For most being physically active requires having a regular exercise program or recreation activity. However, less than one-third of adults engage in at least 30 minutes of moderate exercise several days a week, which has been the recommendation. Many people lead very sedentary lives. Some 40 percent of adults do not engage in any leisure time physical activity. More than two hours of television is watched per day by 43 percent of adolescents and there is a direct correlation between the amount of TV viewing and the likelihood of being overweight or obese.²⁴

However, like the little boy who continued to ask his father why after each answer, it must be asked: so why are Americans eating more and also being less physically active? In a real sense, it's the result of the typical modern American lifestyle and environment. Many Americans lead very busy, somewhat stressful lives. They feel under a lot of time pressure. If asked why they do not exercise on a regular basis or take the time to cook and eat better, most would probably answer that they would like to, but they just can not find the time. Most Americans live in an environment that makes over-eating very easy and does not encourage physical activity. The most convenient way to get most places is in your own automobile and inexpensive, very palatable food, that is frequently high in calories, is widely available and heavily promoted. There has been a proliferation of the places where food can be bought. Food is no longer basically sold at just grocery stores and restaurants, but at gas stations, drug stores, and from multitudes of vending machines, to name just a few.

Darius Lakdawalla and Tomas Philipson, two economists, argue that the rise in overweight and obesity is largely the result of the impact of technological change and innovation on the cost of food and on the need for physical activity. Their analysis finds that some 40 percent of the recent increase in weight has been due to the reduced cost of food and about 60 percent to the decline in physical activity because of technical change in the workplace, at home, and particularly in transportation. There is also very solid evidence that the average body mass index of Americans has been rising for over 100 years, going all the way back to the actual measured heights and weights of Civil War soldiers.²⁵

Most people do not yet appreciate the severe health consequences of overweight and obesity. They are still viewed as a cosmetic problem involving appearance, not as a serious health risk.²⁶ In terms of the obesity crisis, three areas are receiving particular attention. One is the schools; another is portion size, in particular supersizing, and also the potential legal liability of food companies. Each of these issues will be examined in some detail in turn.

The Issues at School

Most older Americans in remembering their own school experiences think of p.e. (physical education) as being a daily part of every student's program and the options for school lunch being either to buy the standard cafeteria meal, which was usually not very appealing, but was nutritious, or bringing a lunch from home, which mom usually carefully made. Most schools then had no vending machines with soft drinks, candy and snack foods. A number may even remember walking to school or a long walk to the nearest school bus stop, plus recess time in the primary grades in which lots of very active games were played on the school fields.

Unfortunately, these images are out of date. A study by the CDC found that 73.9 percent of middle and junior high schools have vending machines and/or snack bars, and 98.2 percent of high schools do. Brand-name fast food is provided at over one-fifth of schools.²⁷ Even without the name-brand fast food, schools feel they have to offer high fat or sugar foods, such as cheese burgers, to get their students to want to eat the lunches

provided, since that is what they are used to. If healthier lower calorie and fat options are available, sales are typically poor. If served such options without choice, much of the food frequently ends up in the trash.

About half of all school districts have what are referred to as “pouring rights” with soft drink companies, which allow the companies to sell beverages in the schools. The schools and districts then receive a percentage of the sales revenue. With tight budgets, schools have turned to such contracts as a source of funding, in particular for extra-curricular programs that might have been cut otherwise. The schools actually get in the perverse position of standing to directly benefit from the more soft drinks that students drink. Studies have found a clear positive correlation between the average daily consumption of soft drinks by children and their risk of developing obesity.²⁸

Some states and school districts are beginning to react. The Board of the Los Angeles School District, the nation’s second largest, voted unanimously to end the sale of soft drinks in vending machines and cafeterias at all its schools. Their sale is already prohibited at elementary schools and effective January 2004 the ban will be extended to middle and high schools. Critics of the ban argue that soft drinks are unreasonably being singled out.²⁹ On the other side of the balance between calories consumed versus calories burned, Illinois is the only state that currently requires physical education for grades K-12 in its schools. Only about one-quarter of adolescents nationwide participate in some type of physical education.³⁰

Portion Sizes

European visitors to this country frequently are astonished by the large portions that are served at many restaurants here. The average American is being served larger portions both away from home and at home than in the past. Moreover, even though people may not eat the entire serving, a study by nutritionist Barbara Rolls found that people eat more when they are served more.³¹ However, it is the "supersizing" of fast food, in combination with value pricing that is getting the most criticism. Fast food is also frequently bundle priced, so that a hamburger, fries and a soft drink are considerably less if bought together, rather than separately.

For example, McDonald's in St. Paul, Minnesota in July 2002 offered a "value meal" of a Big Mac, a medium fries and a medium Coca Cola for only \$2.99. This meal would provide 1,250 calories and 56 grams of fat, based on the nutrient content information given on the McDonald's corporate website. If the fries and Coke were "supersized", which cost very little more, the meal would have a total of 1,640 calories and 63 grams of fat. This single meal would then amount to 73 percent of the average Recommended Daily Allowance (RDA) for calories and 98 percent of the Daily Value recommended for fat. The economics of the food service business make large portion sizes attractive since labor and overhead constitute a large part of the total cost, and increase very little with portion size. For the American consumer, who is attuned to looking for value and seeking good deals, such offers are very appealing.

Serving portions have ballooned for many product categories. The typical muffin was 1.5 ounces in 1957, whereas it has swollen to half a pound now, according to the U.S. Department of Agriculture.³² A June, 2002 study by the National Alliance for Nutrition and Activity reported that a consumer could buy a 3-ounce Minibon at Cinnabon, with 300 calories and 11 grams of fat, for \$2.01. However, they could purchase an 8-ounce Cinnabon, with 670 calories and 34 grams of fat, for \$2.29, just 28 cents more. Who could resist a deal like this? Starbucks' caffe latte comes in three sizes: Tall (12 oz.), Grande (16 oz.), and Venti (20 oz.) and the prices were \$2.44, \$2.99, and \$3.29. Again, the largest size with 350 calories with whole milk is the "best deal". And the examples could go on and on.³³

A recent study by Samara Nielson and Barry Popkin, which analyzed trends in portion sizes for 1977-98, found that they varied by the source of the food. The largest portions were consumed at fast food places and the smallest at other types of restaurants. Most significantly, however, portion sizes increased both inside and outside the home for virtually all food categories. The average portion size of salty snacks increased from 1.0 to 1.6 ounces (a gain of 93 calories), soft drinks from 13.1 to 19.9 fluid ounces (49 calories), and hamburgers from 5.7 to 7.0 ounces (97 calories).³⁴

Most people have little conception of the serving sizes on which dietary guidance is based and for which nutrient content information is given. For example, a typical bag of microwave popcorn with butter may indicate on the nutrition label on the package that it contains 160 calories. Many of us would be likely to eat the entire bag as a single serving.

However, a close look at the nutrition label will indicate that the bag contains 3.5 servings and, therefore, eating the entire bag provides 560 calories. Very few people would, in fact, not overestimate the serving size for various foods used by the U.S. Department of Agriculture in its dietary guidance. In addition, people are doing more snacking between meals. A University of North Carolina study, that compared data for 1977-78 and 1994-96, found children's average energy intake from snacks rose from 450 to 600 calories daily. This trend reflects an increase in the number of snacks, whereas the portion size, in this case, remained fairly constant.³⁵

LEGAL PERSPECTIVES

In the widely publicized lawsuit against McDonald's the plaintiffs, Ashley Pelman (a minor) and her mother and Jazlyn Bradley (a minor) and her father, claimed that McDonald's practices in making and selling its products had injured the two children by causing their obesity. The suit was met with disbelief by many people. However, the seriousness of the potential legal challenge posed by obesity to the food industry should not be underestimated. The federal judge in the U.S. District Court for the Southern District of New York dismissed the complaint against McDonald's (Pelman vs. McDonald's), but in doing so provided for an amended complaint. Moreover, the judge's ruling provided specific guidance on how to revise the complaint, even suggesting certain novel legal theories to use. This McDonald's suit represents not the end, but the beginning of lawsuits against the food industry related to obesity.³⁶

In particular, the plaintiffs claimed McDonald's had not adequately disclosed the ingredients and/or health effects of its food, wrongly described the food as nutritious, and focused certain marketing efforts specifically at children. The judge dismissed the case on the grounds that there were not "specific allegations indicating that McDonald's food products involve a danger not within the common knowledge of consumers", nor "identified any specific advertisements that were deceptive".³⁷ The judge's ruling then provided a road map for an amended case, by including specific ads that might be false, showing that certain products are so altered that average consumers could not reasonably be expected to know their health consequences, and by establishing the plaintiffs exhibited addictive behavior fostered by McDonald's products. An amended complaint was filed in February 2003 and the Court had not yet ruled on it, as this was written.

There are obviously some very important differences between food and tobacco. However, there are also some important similarities between smoking and long-term overeating. Both can be a cause of poor health; both are associated with very large social costs; both are heavily promoted; and both have specific marketing efforts targeted at young people.³⁸ One could argue that a person should reasonably know that eating too many Big Macs, or virtually any other food, could make you obese. However, most smokers knew that it was bad for them and plaintiffs won lawsuits anyway. Another argument might be that diet, and certainly any one company's products like McDonald's, is only one of many factors in obesity. Again though, smoking is only one risk factor in the diseases, such as lung cancer that it is related to. In court decisions smoking's share

of the blame was simply estimated and the settlement cost divided among the tobacco companies according to market share.³⁹

The possibility of class action lawsuits creates a strong incentive for attorneys. Lawyers can make enormous sums of money by winning class actions, as exemplified by the tobacco settlement. In class actions, the attorneys frequently seek out clients, rather than the reverse. The legal process of discovery provides plaintiffs' lawyers a significant opportunity to examine a company's internal documents for evidence. Some of the same attorneys who focused on tobacco are beginning to target the food industry.⁴⁰ The greatest vulnerability may relate to demonstrating false or misleading claims about a company's products and finding evidence of failure by a company to disclose important information to consumers, for example related to the health effects of a product. A company's compliance with government regulations may not be a sufficient defense.⁴¹ It can reasonably be presumed lawsuits will focus on the easiest cases and the "deepest pockets" in terms of the biggest companies with the most money.

William Dietz, Director of the Division of Nutrition and Physical Activity at the Centers for Disease Control (CDC), has said that the obesity issue is where smoking was in the 1950's. The public has not yet caught up with the experts in terms of understanding the seriousness of the health impacts.⁴² The public attitude has been to view overweight and obesity as a personal responsibility. However, a sea change may be starting to occur. The change in perceptions of who is responsible is likely to change first for children. Children are not seen as personally responsible for their actions in the same way as

adults.⁴³ Parents and society at large sees children as a group that deserves to be protected. The typical American child lives in an environment that does not provide much encouragement to eat a balanced, healthy diet and get plenty of exercise. In fact, most of the signals being sent to children in our society, particularly by food advertisements and promotion, are contrary to these goals.

With the mounting medical evidence and widespread media attention, tobacco and smoking ultimately gave rise to a powerful social movement that changed social behavior, affected the political agenda and the regulation of the industry, and also shifted the potential for lawsuits against the tobacco industry. Smoking was no longer perceived as just an individual issue, but a major social problem. The tobacco industry began to lose in court when juries became convinced the industry was deceiving the public.⁴⁴ The basic ingredients for a major social movement are public angry over an issue, victims (such as children), perceived villains, a critical mass of science in terms of the harm, and common sense perceptions of the problem.⁴⁵ The necessary factors for obesity and its relation to food industry practices to give rise to a significant social movement could increasingly be in place, which could have major implications for government regulation of the industry and juries' perceptions of possible industry liability.

MOVING TOWARDS A SOLUTION

Some are blaming the food industry for the obesity crisis and harsh interventions by government are being recommended.⁴⁶ A tax on high-fat foods has even been

suggested.⁴⁷ The position of the more extreme industry critics seems unfounded and unfair given the complexity of the factors underlying the rise in overweight and obesity. However, what is very clear is that the food industry absolutely needs to contribute to the solution if progress is going to be made against the obesity crisis. If food companies choose to take a defensive, legalistic position, it will be much more difficult for society to successfully address the challenge of obesity. Moreover, this approach would likely prove self-defeating in the long run. Both the industry and public interest would be far better served if individual food companies, and the industry in general, initiated a proactive strategy to help become part of the solution to overweight and obesity.

On one level solving the obesity crisis is very simple. People need to eat less and/or engage in more physical activity.⁴⁸ However, this is in reality very difficult for most people to do since diet and activity are deeply embedded in their lifestyle and reflect the culture they live in. Few medical treatment programs that focus on behavioral change can claim long term success in changing fundamental food and exercise habits. Typically success with dieting is only short term and not permanent, with the lost weight eventually all being regained. All too frequently people go through cycles of weight gain and dieting, while they continue to gain weight over time. At the current time, experts suggest there are no pharmaceutical drugs on the horizon which are likely to make a major contribution to solving the obesity problem. And physicians recommend the surgical procedures that are available only for extreme cases because of the cost and risks involved, which brings us back to behavior change.⁴⁹

If most people are to succeed at achieving and maintaining a healthy weight, they need to have much stronger support from the health and food industries, government and their communities. A healthier cultural attitude towards food will have to be developed, as well as an environment that is more conducive to exercise and physical activity. William Dietz of the CDC argues that American cities must be redesigned more for pedestrians than automobiles.⁵⁰ It will certainly not be easy given the complexity of the underlying factors and the dimensions of the changes which will likely be required, but a start must be made given the grave health risks involved and the rising proportion of the population affected. A key component of this effort will be getting the message to the public that still generally sees extra weight as a concern related to physical appearance, not a serious risk to health.

“The Surgeon General’s Call To Action” recommends that people determine their BMI and start on a gradual weight loss program if it is too high. The program would involve following healthy eating guidelines and sensible portion sizes, as well as increasing physical activity and reducing time spent in sedentary activities, such as watching television.⁵¹ For many people, walking more will be the easiest way to become more physically active. Experts who have thought carefully about realistic approaches tend to focus on the following areas. One frequently mentioned is improving the food options and increasing physical activities for school children. Industry is being called on to provide more healthy product options, better consumer guidance, and more socially responsible advertising and marketing. Communal programs that encourage physical activity and improved food habits need to be expanded and strengthened, hopefully, with

food industry support, as well as that from health care providers and government institutions at various levels. Since the prevalence of obesity, although rising, is still much lower in Europe and in other cultures, there may be much that can be learned from their food and activity attitudes and habits.

Changes At School

As recommended by the Surgeon General, there should be a goal of providing daily, quality physical education for all school children, grades K-12.⁵² The activities need to be appropriate for a child's age and abilities. The focus should be on fostering skills and attitudes that will encourage physically activity throughout their lives. These changes can not just be mandated as requirements, but can only be achieved if the necessary funding for such programs is also made available. Probably the major reason that physical education programs have been cut by schools is due to tight budgets. The food industry could play a major advocacy role for universal physical education in all schools. The food and the health care industries might join together with educators to lobby Congress and state legislatures for funding. Individual companies can also make a contribution by directing some of their corporate support for community and charitable programs to this area, as some currently do.⁵³

In six schools in New York City and Montgomery County, Maryland visited during lunch for The New York Times article on school meals, only five students, out of the hundreds seen eating, took a green vegetable with the main course.⁵⁴ The canned green beans being served looked particularly unappealing. A great many American school children

are eating high fat items, such as pizza and cheeseburgers, with few getting a nutritionally balanced meal, including fruits and vegetables. “The Surgeon General’s Call To Action” and many others argue that our schools must provide appealing options which contribute to a healthy diet.⁵⁵ One obvious constraint is cost. However, schools that do offer lower-fat products, and fresh fruits and vegetables, typically find getting the kids to actually eat the healthier choices very frustrating. One Berkeley, California school that provided nutritious options found very few students interested.⁵⁶

A comparison of typical school lunches in several countries found students’ trays at the elementary school on the Rue St. Bernard, in Paris, on a particular day had ham with lentils as the main dish, salad with tomatoes, corn, soy and Gruyere cheese, a baguette slice, a banana for fruit, water to drink, and yogurt with sugar for dessert.⁵⁷ These children were getting a balanced, nutritious lunch with the major food groups all included and their “five a day”, referring to the recommended daily fruit and vegetable servings, from this single meal. Most American school children would be unlikely to find this French school lunch appealing. If given a choice, many would probably choose a cheese burger or pizza. The difference is these French children are being raised and educated to appreciate good food. This does not mean that McDonald’s in France does sell a lot of hamburgers to French children. It does mean that many of the items on the Rue St. Bernard school children’s trays will not end up in the trash, as they very well might at a typical U.S. school.

A Fortune magazine article discussed as a hopeful example a private school in New York City, which put a chef from the French Culinary Institute in the same city in charge of their lunches. He started serving meals cooked from scratch and educating the students to appreciate good food. It took some time, but now the students are reported to be delighted with a typical lunch of vegetable soup, green beans with shallot butter, potato salad with scallions, baked salmon with citrus butter, and a small piece of excellent cake for dessert. Amazingly, it is reported that such meals are costing no more than was spent previously since portions are smaller, there is less waste, and no catering company's overhead.⁵⁸

Changing Business Strategies

McDonald's introduced the Mclean hamburger in 1991, which had only 10 grams of fat and 320 calories. Burger King in 1990 put Weight Watchers fettuccine and boiled chicken on the menu with 298 calories and 11 grams of fat. Taco Bell launched its Border Light products in 1995.⁵⁹ All these products have since been discontinued. When the fast food industry is criticized for their offerings, the response is frequently that when they offered low-fat, low-calorie options they simply did not sell well enough to keep on the menu. Many packaged food companies have experienced the same kinds of lack of consumer interest in such products. However, the obesity crisis has become critical and the food industry will have to help contribute to the solution by offering appealing new, low-fat, low-calorie choices and make a real commitment to marketing them. In addition, the industry needs to move towards sensible portion sizes to help people eat less, as well as much better guidance on nutrition content and serving size.

Many companies are beginning to respond to this challenge. Kraft Foods, the largest food manufacturer, announced in July 2003 that it intended to reduce the portion sizes of single-serving packages, eliminate all in-school marketing, cut the fat and calories in many products, and establish a high-level nutrition advisory council, as well as several other initiatives. The announcement received considerable applause, but was also met with skepticism by some nutrition and food industry experts. As a New York Times article stated, “Now comes the hard part. How does the maker of Oreo cookies, Velveeta cheese, Tombstone Pizza and Oscar Mayer wieners actually help trim waistlines? And can a food giant profit from selling people on the idea of eating less?”⁶⁰ The Subway Chain has generated favorable publicity by offering “healthful alternatives to traditional fatty fast food, many of which have less than six grams of fat or less”, according to its website.⁶¹ Frito-Lay, the snack food division of PepsiCo, has initiated a major effort to develop lower-fat, lower calorie snack products. They are being advised by two well-known weight-control doctors.⁶²

And many other companies are moving in similar directions. Now the real challenge is to get enough customers buying these products to make them a permanent part of their menus and product lines. With that in mind, companies need to not only develop the products, but commit to innovative marketing campaigns that will help them succeed with the consumer. In some cases new products may not even be required, but redirected promotional efforts are. Most teenagers, especially boys, although heavy drinkers of soft

drinks, do not drink diet sodas. Marketing efforts directed toward shifting their consumption to non-caloric drinks would make a real contribution.

However, the changes in promotion need to be far broader than simply successfully marketing new “healthier” products. A lot of television ads for food products have people engaged in strictly sedentary activities, other than simply eating meals, like sitting watching a football game on TV. A subtle message can be sent if rather than showing a bunch of young men watching a football game on TV, they are taking a break from actually playing football themselves to eat a snack or have something to drink.

Government and others trying to promote healthier diets and more physical activity also really need the assistance of the advertising industry, since most such efforts have not been very skillful or effective. One area in which the food industry might well face regulation if they do not move towards self-regulation is the kinds of products and marketing efforts directed at young children. The industry can develop a set of standards for marketing to young children, much as the movie industry did with their rating system on the suitability of films for young people.

When nutrition labeling was mandated for food products in the early 1990s, restaurants and other food service providers were exempted.⁶³ Most fast food outlets have information in a pamphlet on nutrition content behind the counter and on their websites. Many people are eating at new fast casual chains, such as Baja Fresh and Panera, assuming their products are healthier than the older chains. However, Baja’s grilled chicken salad and Panera’s ham and swiss sandwich actually have more calories than a

McDonald's Quarter Pounder with Cheese. Most customers would probably be very surprised to learn this.⁶⁴ Overall, a much better job needs to be done communicating nutrient content information to consumers. Again, if the industry does not act, the result may be further government regulation. The Hilton Hotel chain, at least in Europe, is providing cards to their guests with guidance on low fat and low calorie, hi-energy, high fiber, low cholesterol, as well as "Big Time!" items on their breakfast menus.⁶⁵

There are some examples of offering more sensible portion sizes. Red Lobster, a casual sitdown restaurant chain, has started to offer half-portions at a lower price for some of its entrees.⁶⁶ Something other restaurants also do, but needs to become a much more widespread practice. When Starbuck's opened a coffee outlet in Vienna, Austria the muffins they offered were significantly smaller than in the United States, with only half the sugar.⁶⁷ Many packaged products, such as potato chips, sold as snacks in vending machines and at stores, which many consumers assume are a single serving, actually contain several servings. If the industry does not act, eventually it may be required to put the total number of calories in the package in big numbers on the label. More generally, the food industry needs to play a central role in convincing typical American consumers that "less can be more", when it comes to eating.

Community Programs

Another action recommended by the Surgeon General in the "Call To Action" is creating more opportunities for and encouraging physical activity at work and in communities.⁶⁸ A multitude of various programs have been initiated by different government bodies,

communities, foundations, and other public and private institutions. Most are characterized by their low visibility, lack of significant funding and minimal impact. Massachusetts has a school-based obesity curriculum known as Planet Health; North Carolina has the Healthy Weight Initiative; Rhode Island has a program that focuses on minority children; Coca Cola has a program called Be Active; PepsiCo Has Get Active, Stay Active, and the Robert Wood Johnson Foundation has Healthy Lifestyle - Healthy Weight.⁶⁹

What would seem highly desirable is to identify a small number of these programs which evidence the greatest impact and have the best chances of meaningful success and then focus on those. The level of commitment and financial support for these selected programs then must be greatly increased, if they are to have a major effect on overweight and obesity. Food companies, individually and collectively, could make a very meaningful contribution by supporting selected programs both with being advocates for more public funding and by their direct charitable financial support.

Minnesota has a program called Be Active Minnesota and although the author resides in this state, he had not heard of it before researching this topic. A visit to the Be Active Minnesota website finds the mission is "to improve the well being of the people of Minnesota through the support and promotion of physical activity".⁷⁰ It supports a wide range of community-level activities, such as the first annual Be Active Minnesota Spring Walk held March 27, 2003 in Eagan, MN. A general Walk Minnesota Campaign was launched in Spring 2003 to promote safe and accessible places to walk. A

Physician/Primary Care Campaign to deliver physical activity information is planned for 2004, and Be Active Minnesota is participating in the CDC's "Verb" program, which seeks to promote physical activity among children and youths.

One of the programs that appears to have the greatest visibility is Colorado On The Move. Moreover, America On The Move, patterned on the Colorado Program, is being launched in 2003.⁷¹ The program focuses on something very simply, getting people to walk more. Participants get a pedometer and find out how much they walk in a typical day. They then begin by adding 2,000 more steps per day to that level, which equates to an average expenditure of 100 additional calories. The program sells its own Colorado On The Move step counters. It already has support from such food companies as General Mills, Kellogg, M & M Mars, the National Dairy Council, Kraft, Procter and Gamble, Gerber, McDonald's, Coca-Cola, and the National Cattlemen's Beef Association.⁷²

This program has many attractive features. Most of us like to set goals, especially ones we can reasonably be expected to achieve, and most of us like to be able to measure our progress. Walking is the most basic physical activity and something virtually all of us, who are not physically disabled, can do. Another part of the program is directed at participants reducing their daily caloric intake by not eating one item each day, which contains about 100 calories, they would have eaten otherwise. The necessary guidance is provided by the program. Whether America On The Move, the national version of the Colorado program, should be the focus for a major commitment, requires a careful

assessment of the impact of the current program. However, this program would seem to be a strong candidate to be a significant part of the effort to address the obesity crisis.

LOOKING AHEAD

The challenge posed by overweight and obesity to our society can not be ignored. The situation is only likely to get worse if an aggressive effort is not made to address it.

James Hall, an expert in the area and a leader of Colorado On The Move and now America On The Move, has predicted if the current trends are not changed that the portion of the U.S. population that is overweight or obese will reach 75 percent by the end of this decade.⁷³ Moreover, new medical evidence is regularly being released on the serious harmful effects of overweight and obesity on health.

Making significant progress will be difficult, since individuals must make fundamental changes in their eating and activity habits. It would seem both unjustified and unproductive to focus blame exclusively on the food industry. No specific food is unhealthy eaten in moderation. Only an overall diet and lifestyle can be considered more, or less, healthy. The underlying causes are complex and reflect the American lifestyle as we know it. Curiously, even though studies suggest additional television viewing is associated with increased obesity, no one is yet filing lawsuits against the TV networks or cable channels.⁷⁴ The food industry will have to be part of the solution though, hopefully by cooperating in the effort and taking voluntary actions. Otherwise, if the industry takes

a defensive, antagonistic posture, the end result is likely to be more government regulation and intervention

Combating obesity is one area in which we may be able to learn a considerable amount from the eating and daily activity habits of people in other countries and cultures, especially Europe. It must be admitted that academics who criticize aspects of American life and suggest we do things more like the Europeans can be tiresome. However, although obesity is increasing in Europe and becoming a worldwide problem, as discussed earlier, the proportion of people who are obese in countries like France and Italy are still substantially lower than in the United States. In these nations, although automobile ownership is widespread, most people do more walking in their daily lives than we do. Walking seems to be the key since it does not appear to be true that more European adults go to the gym or engage in specific exercise activities than Americans.

Perhaps more importantly, many of the Italians and French still have an attitude towards food that emphasizes quality, not quantity. This is reflected in their shock at the portion sizes in many American restaurants when they visit the United States. Some would say that people such as the French and the Italians actually enjoy their food more, but worry about it less than we do. A change in attitude towards "less can be more" must become popular in the United States, if major progress is to be made against the obesity epidemic. Significantly, people in Europe actually spend a larger portion of their household budgets on food. "A less can be more attitude" that emphasized the sensory quality of food might actually mean that Americans would spend more on food, not less. This suggests that

there may actually be a "silver lining" of opportunity for savvy businesses in the food industry.⁷⁵

ENDNOTES

- ¹ Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), 2002. Health, United States, 2002. Atlanta, Georgia. (see Tables 70 and 71).; viewed at www.cdc.nchs/hus.htm on April 14, 2003. These data are from the National Health and Nutrition Examination Survey (NHANES) in which participants' heights and weights are measured as part of a physical examination conducted by medical personnel.
- ² CDC, National Center for Chronic Disease Prevention and Health Promotion (NCCDHP), 2002. "Prevalence of Diabetes, 1980-2000"; viewed at www.cdc.gov/diabetes/statistics/prev/national/fig1data.htm on April 18, 2003.
- ³ CDC, National Center for Chronic Disease Prevention and Health Promotion, 2002. "Trends in Diabetes Prevalence Among American Indian and Alaska Native Children, Adolescents, and Young Adults – 1990-1998"; viewed at www.cdc.gov/diabetes/pubs/factsheet/aian.htm on April 18, 2003.
- ⁴ Leveille, Gilbert, 2003. "Answering the Challenge: Some Points to Ponder Overnight", presented at the 2003 Food Update Conference, Ft. Myers, FL, April 7, 2003.
- ⁵ CDC, NCCDHP, 2002. "Obesity Trends." Atlanta, Georgia; viewed at www.cdc.gov/nccdhp/dnpa/obesity/trend/maps/slide/003.htm on July 4, 2002. These state-level statistics are from the Behavioral Risk Factor Surveillance System, 1991-2000, in which heights and weights are obtained in a telephone survey. These data are presumed less reliable than the actual measurements in the NHANES. People probably tend to understate their own heights and weights.

- ⁶ Op. Cit., Endnote no. 1.
- ⁷ Ibid, see Table 71.
- ⁸ Ibid, see Table 70.
- ⁹ U.S. Dept. of Health and Human Services (U. S. DHHS), Public Health Service, Office of the Surgeon General, 2001. "The Surgeon General's Call To Action To Prevent and Decrease Overweight and Obesity, 2001", Rockville, Maryland; viewed at www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.htm on April 14, 2003.
- ¹⁰ American Obesity Association, 2002. "AOA Fact Sheet"; viewed at www.obesity.org on October 22, 2002, based on data from the CDC, NCHS, NHANES, see Endnote no. 1.
- ¹¹ Op. Cit., Endnote no. 9.
- ¹² Calle, Eugenia E., Carmen Rodriguez, Kimberly Walker-Thurmond, and Michael J. Thun, 2003. "Overweight, Obesity and Mortality from Cancer in a Prospectively Studied Cohort of Adults". The New England Journal of Medicine, 348/17(April 24): 1625-1638.
- ¹³ Wolf, Anne and G. Colditz, 1998. "Current Estimates of the Costs of Obesity in the United States." Obesity Research, 6/2:97-106.
- ¹⁴ Op. Cit. Endnote no. 9. (Surgeon General); Connolly, Ceci, 2003. "Health Costs of Obesity Near Those of Smoking." Washington Post, May 14, 2003, p. A9.
- ¹⁵ Organization for Economic Cooperation and Development (OECD), 2002. Health Data 2000, Paris, France; viewed at www.oecd.org/pdf/M00031000/M00031130.pdf on April 21, 2003.

- ¹⁶ Winslow, Ron and Peter Landers, 2002. "Obese America: Obesity: A World-Wide Woe", The Wall Street Journal, (Eastern Edition) July 1, 2002, p. B1.
- ¹⁷ Worldwatch Institute, 2000. "Worldwatch News Release: Chronic Hunger and Obesity Epidemic Eroding Global Progress", March 4, 2000, Washington D. C.; viewed at www.worldwatch.org/press/news/2000/03/04 on April 21, 2003.
- ¹⁸ World Health Organization, 2003. Nutrition: Controlling the Global Obesity Epidemic, updated April 9, 2003, Geneva; viewed at www.who.org.int/nut/obs.htm on April 21, 2003.
- ¹⁹ Martorell, Reynaldo, 2001. "Obesity", 2020 Focus 5, Brief 7, International Food Policy Research Institute, Washington D.C., viewed at www.ifpri.org/2020/focus/focus05/focus05_07.htm on April 21, 2003.
- ²⁰ Mydans, Seth, 2003. "Clustering in Cities, Asians Are Becoming Obese." The New York Times, March 13, 2003, p. A3.
- ²¹ Op. Cit., see Endnote no. 16
- ²² CDC, NCCDPHP, 2001. "Factors Contributing to Obesity." Atlanta, Georgia; viewed at www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm on April 14, 2003.
- ²³ Putnam, Jane, Jane Allshouse, and Linda S. Kantor, 2002. "U.S. Per Capita Food Supply Trends: More Calories, Refined Carbohydrates, and Fats". Food Review, U.S. Dept. of Agriculture, Economic Research Service, Washington D. C., 25/3: 2-15. Annual data are estimated for the per capita availability of nutrients in the U. S. food supply. These data are derived by the disappearance or food balance sheet approach based on estimates of production, imports, exports and storage, with an allowance for losses, to derive estimates of the quantities that available for utilization. The data are

not obtained from an actual survey of consumption from individuals. However, since the methodology is consistent over time, they are widely used to analyze trends.

²⁴ Op. Cit. Endnote no. 9. (Surgeon General.)

²⁵ Lakdawalla, Darius and Tomas Philipson, 2002. "The Growth of Obesity and Technological Change: A Theoretical and Empirical Examination." National Bureau of Economic Research, NBER Working Paper No. w8946, May 2002, <<http://papers.nber.org/papers/w8946>>.

²⁶ Dietz, William, 2003. "The Challenge of Obesity in America", presentation made at the 2003 Food Update Conference on "Answering the Obesity Challenge", April 5-8, 2003, Fort Myers, FL; Powerpoint slides available on www.foodupdate.org on April 21, 2003.

²⁷ Spake, Amanda, 2002. "A Fat Nation", U. S. News and World Report, August 19, 2002, pp. 40-47.

²⁸ Ludwig, David S., Karen E. Peterson, and Steven L. Gortmaker, 2001. "Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis". Lancet 357/9255(February 17): 505-508.

²⁹ CBSNEWS.com, 2002. "Soda Pop To Be Banned In L. A. Schools", August 28, 2002; viewed on www.cbsnews.com/stories/2002/07/26/health/printable516520.shtml on April 23, 2003.

³⁰ U. S. Food and Drug Administration (FDA), 2002. "Overweight, Obesity Threaten U.S. Health Gains", FDA Consumer, 36/2(March-April): 1-2; viewed on www.fda.gov/fdac/features/2002/202_fat.html on April 22, 2003.

³¹ Op. Cit. Endnote no. 26. (Dietz.)

- ³² Raeburn, Paul, 2002. "Why We're So Fat", Business Week, October 21, 2002, pp. 112-114.
- ³³ National Alliance for Nutrition and Activity (NAMA), 2002. "From Wallet to Waistline: the Hidden Cost of Super Sizing", Washington D.C., June 2002.
- ³⁴ Nielsen, Samara Joy and Barry M. Popkin, 2003. "Patterns and Trends in Food Portion Sizes, 1977-1998", Journal of the American Medical Association, 289/4 (January 22): 450-453.
- ³⁵ Williamson, David, 2001. "UNC Scientists Find U.S. Children Snack More Than They Did Two Decades Ago", Press Release, University of North Carolina, Chapel Hill, NC, March 26, 2001; viewed at www.unc.edu/news/newsserv/research/apr01/popkin040601.htm on April 23, 2003.
- ³⁶ Kidney, Michael L., 2003. "The McDonald's Class Action Decision: a Harbinger of Bad Things To Come", Prepared for the 2003 Food Update Conference, Ft. Myers, FL, Hogan and Hartson L.L.P., Washington, D.C. , April 8, 2003; available at www.foodupdate.org on April 24, 2003.
- ³⁷ Ibid.
- ³⁸ Brownell, Kelly, 2003. "Obesity: Whose Challenge Is It Anyway?", Presented at the Food Update 2003 Conference, Ft. Myers, FL, April 7, 2003.
- ³⁹ Silverman, Richard S., 2003. "Class Actions: A Worsening Crisis", prepared for the 2003 Food Update Conference, Ft. Myers, FL, April 8, 2003; available at www.foodupdate.org on April 24, 2003.
- ⁴⁰ Parloff, Roger, 2003. "Is Fat the Next Tobacco?" Fortune, February 3, 2003, pp. 51-54.

- ⁴¹ Op. Cit, Endnote no. 39. (Silverman.)
- ⁴² Op. Cit, Endnote no. 26. (Dietz.)
- ⁴³ Op. Cit, Endnote no. 38. (Brownell).
- ⁴⁴ Lyskanycz, Myron, 2003. “The Response from the Advertising Community”, presented at the 2003 Food Update Conference, Ft. Myers, FL., April 7, 2003.
- ⁴⁵ Op. Cit., Endnote 38. (Brownell).
- ⁴⁶ Nestle, Marion, 2002. Food Politics: How the Food Industry Influences Nutrition and Health, University of California, Berkeley, CA, 2002.
- ⁴⁷ Milmo, Cahal, 2002. “Fat is a consumerist issue: how a grease tax may encourage healthier habits”, Independent News, July 16, 2002; viewed at <news.independent.co.uk> on July 16, 2002.
- ⁴⁸ Op. Cit. , Endnote no. 9. (Surgeon General).
- ⁴⁹ Riley, Rosemary, 2003. “Science and Technology’s Answer to the Obesity Challenge”, presentation at 2003 Food Update Conference, Ft. Myers, FL, April 7, 2003; available at www.foodupdate.org on April 24, 2003.
- ⁵⁰ Op. Cit, Endnote no. 26. (Dietz).
- ⁵¹ Op. Cit, Endnote no. 9. (Surgeon General).
- ⁵² Ibid.
- ⁵³ General Mills, 2003. “Briefly Noted: Championing Youth Nutrition and Fitness”, Midyear Report 2003, Minneapolis, MN, p. 9.
- ⁵⁴ Becker, Elizabeth and Marian Burros, 2003. “Eat Your Vegetables? Only at a Few Schools”, The New York Times, January 13, 2003, pp. A1 and A12.
- ⁵⁵ Op. Cit., Endnote no. 9.

- ⁵⁶ Brown, Patricia Leigh, 2002. "Health Food Fails Test At School In Berkeley", The New York Times, October 13, 2002, p. A14.
- ⁵⁷ Shell, Ellen Ruppel, 2003. "An International School Lunch Tour", The New York Times, February 1, 2003, p. A31.
- ⁵⁸ Smith, Timothy K., 2003. "We've Got To Stop eating Like This", Fortune, February 3, 2003, pp. 58-70.
- ⁵⁹ Stone, Ann, 1997. "Lean? No Thanks", R & I Magazine, May 15, 1997; viewed at www.rimag.com/10/lean.htm on May 1, 2003.
- ⁶⁰ Barboza, David, 2003. "Can Kraft Trim the Fat in an Oreo World?" The New York Times, July 26, 2003, p. C1.; Kraft Foods Inc., 2003. Press Release, <www.kraft.com/newsroom>, July 1, 2003.
- ⁶¹ Subway Corporation, 2003. "Healthy Alternatives", Subway Website; at www.subway.com on May 2, 2003.
- ⁶² Op. Cit, Endnote no. 32 (Business Week).
- ⁶³ Burros, Marian, 2002. "McDonald's France Puts its Mouth Where Its Money Is", The New York Times, October 30, 2002, p. C7.
- ⁶⁴ Parker-Pope, Tara, 2003. "That Veggie Wrap You Just Chowed Down Is More Fattening Than a Ham Sandwich", The Wall Street Journal, January, 14, 2003, p. D1.
- ⁶⁵ Hilton Corporation, 2003. "Hilton Breakfast: Everyone's idea of the perfect breakfast is different!" Paris, France, April 2003.
- ⁶⁶ Personal experience, Jean Kinsey, eating at Red Lobster, Roseville, MN, March, 2003.

- ⁶⁷ Erlanger, E., 2002. "An American Coffeehouse in Vienna", The New York Times, June 1, 2002, p. B1.
- ⁶⁸ Op. Cit., Endnote no. 9. (Surgeon General).
- ⁶⁹ Dietz, William H., 2002. "Statement on CDC's Role in Combating the Obesity Epidemic", U. S. Senate Committee on Health, Education, Labor and Pensions, Washington D. C., May 21, 2002.
- ⁷⁰ Be Active Minnesota at www.beactiveminnesota.org on April 11, 2003.
- ⁷¹ Colorado On The Move at www.coloradoonthemove.org on April 9, 2003.
- ⁷² Ibid. The company names were given in this order on the Colorado On The Move website.
- ⁷³ Hill, James, 2003. "Obesity: An Actionable Response", presentation at the 2003 Food Update Conference, Ft. Myers, FL, April 8, 2003; slide presentation available at www.foodupdate.org on April 18, 2003.
- ⁷⁴ Hu, Frank B, Tricia Y. Li, Graham A. Colditz, Walter C. Willett, and Jo Ann E. Manson, 2003. "Television Watching and Other Sedentary Behaviors in Relation to Risk of Obesity and Type 2 Diabetes Mellitus in Women," Journal of American Medical Association, 289/14 (April 9, 2003): 1785-91. Every two hours spent watching TV daily increased the risk of obesity by 23 percent and Type 2 diabetes by 14 percent among women.
- ⁷⁵ A review of 107 different low-carbohydrate diet medical studies concluded that, "the greatest predictors of weight loss appear to be caloric intake and diet duration." Business Week, "Count Calories, Not Carbs," BW Online, April 8, 2003; viewed on, netscape.businessweek...ent/apr2003 on April 20, 2003. See Bravata, Dean M., Lisa

Sanders, Jane Huang, Harlan M. Krembolz, Ingram Olken, Christopher D. Gardner,
and Dawn M. Bravarta, 2003. "Efficacy and Safety of Low-Carbohydrate Diets,"
Journal of the American Medical Association, 289/14 (April 9, 2003): 1837-50.

REFERENCES

- American Obesity Association, 2002. "AOA Fact Sheet"; viewed at www.obesity.org on October 22, 2002, based on data from the CDC, NCHS, NHANES.
- Barboza, David, 2003. "Can Kraft Trim the Fat in an Oreo World?" The New York Times, July 26, 2003, p. C1.
- Be Active Minnesota at www.beactiveminnesota.org on April 11, 2003.
- Becker, Elizabeth and Marian Burros, 2003. "Eat Your Vegetables? Only at a Few Schools", The New York Times, January 13, 2003, pp. A1 and A12.
- Bravata, Dean M., Lisa Sanders, Jane Huang, Harlan M. Krembolz, Ingram Olken, Christopher D. Gardner, and Dawn M. Bravarta, 2003. "Efficacy and Safety of Low-Carbohydrate Diets," Journal of the American Medical Association, 289/14 (April 9, 2003): 1837-50.
- Brown, Patricia Leigh, 2002. "Health Food Fails Test At School In Berkeley", The New York Times, October 13, 2002, p. A14.
- Brownell, Kelly, 2003. "Obesity: Whose Challenge Is It Anyway?", Presented at the Food Update 2003 Conference, Ft. Myers, FL, April 7, 2003.
- Burros, Marian, 2002. "McDonald's France Puts its Mouth Where Its Money Is", The New York Times, October 30, 2002, p. C7.
- Business Week, "Count Calories, Not Carbs," BW Online, April 8, 2003; viewed on, netscape.businessweek...ent/apr2003 on April 20, 2003.
- Calle, Eugenia E., Carmen Rodriguez, Kimberly Walker-Thurmond, and Michael J. Thun, 2003. "Overweight, Obesity and Mortality from Cancer in a Prospectively

Studied Cohort of Adults”. The New England Journal of Medicine, 348/17(April 24): 1625-1638.

CBSNEWS.com, 2002. “Soda Pop To Be Banned In L. A. Schools”, August 28, 2002; viewed on www.cbsnews.com/stories/2002/07/26/health/printable516520.shtml on April 23, 2003.

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), 2002. Health, United States, 2002. Atlanta, Georgia. (see Tables 70 and 71).; viewed at www.cdc.nchs/hus.htm on April 14, 2003.

Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDHP), 2002. “Prevalence of Diabetes, 1980-2000”; viewed at www.cdc.gov/diabetes/statistics/prev/national/fig1data.htm on April 18, 2003.

Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDHP), 2002. “Trends in Diabetes Prevalence Among American Indian and Alaska Native Children, Adolescents, and Young Adults – 1990-1998”; viewed at www.cdc.gov/diabetes/pubs/factsheet/aian.htm on April 18, 2003.

Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDHP), 2002. "Obesity Trends." Atlanta, Georgia; viewed at www.cdc.gov/nccdhp/dnpa/obesity/trend/maps/slide/003.htm on July 4, 2002.

Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion (NCCDHP), 2001. "Factors Contributing to

Obesity." Atlanta, Georgia; viewed at
www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm on April 14, 2003.

Colorado On The Move at www.coloradoonthemove.org on April 9,2003.

Connolly, Ceci, 2003. "Health Costs of Obesity Near Those of Smoking." Washington Post, May 14, 2003, p. A9.

Dietz, William H., 2002. "Statement on CDC's Role in Combating the Obesity Epidemic", U. S. Senate Committee on Health, Education, Labor and Pensions, Washington D. C., May 21, 2002.

Dietz, William, 2003. "The Challenge of Obesity in America", presentation made at the 2003 Food Update Conference on "Answering the Obesity Challenge", April 5-8, 2003, Fort Myers, FL; Powerpoint slides available on www.foodupdate.org on April 21, 2003.

Erlanger, E., 2002. "An American Coffeehouse in Vienna", The New York Times, June 1, 2002, p. B1.

General Mills, 2003. "Briefly Noted: Championing Youth Nutrition and Fitness", Midyear Report 2003, Minneapolis, MN, p. 9.

Hill, James, 2003. "Obesity: An Actionable Response", presentation at the 2003 Food Update Conference, Ft. Myers, FL, April 8, 2003; slide presentation available at www.foodupdate.org on April 18, 2003.

Hilton Corporation, 2003. "Hilton Breakfast: Everyone's idea of the perfect breakfast is different!" Paris, France, April 2003.

Hu, Frank B, Tricia Y. Li, Graham A. Colditz, Walter C. Willett, and Jo Ann E. Manson, 2003. "Television Watching and Other Sedentary Behaviors in Relation to Risk of

- Obesity and Type 2 Diabetes Mellitus in Women,” Journal of America Medical Association, 289/14 (April 9, 2003): 1785-91.
- Kidney, Michael L., 2003. “The McDonald’s Class Action Decision: a Harbinger of Bad Things To Come”, Prepared for the 2003 Food Update Conference, Ft. Myers, FL, Hogan and Hartson L.L.P., Washington, D.C. , April 8, 2003; available at www.foodupdate.org on April 24, 2003.
- Kraft Foods Inc., 2003. Press Release, <www.kraft.com/newsroom>, July 1, 2003.
- Lakdawalla, Darius and Tomas Philipson, 2002. “The Growth of Obesity and Technological Change: A Theoretical and Empirical Examination.” National Bureau of Economic Research, NBER Working Paper No. w8946, May 2002, <<http://papers.nber.org/papers/w8946>>.
- Leveille, Gilbert, 2003. “Answering the Challenge: Some Points to Ponder Overnight”, presented at the 2003 Food Update Conference, Ft. Myers, FL, April 7, 2003.
- Ludwig, David S., Karen E. Peterson, and Steven L. Gortmaker, 2001. “Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis”. Lancet 357/9255 (February 17): 505-508.
- Lyskanycz, Myron, 2003. “The Response from the Advertising Community”, presented at the 2003 Food Update Conference, Ft. Myers, FL., April 7, 2003.
- Martorell, Reynaldo, 2001. “Obesity”, 2020 Focus 5, Brief 7, International Food Policy Research Institute, Washington D.C., viewed at www.ifpri.org/2020/focus/focus05/focus05_07.htm on April 21, 2003.

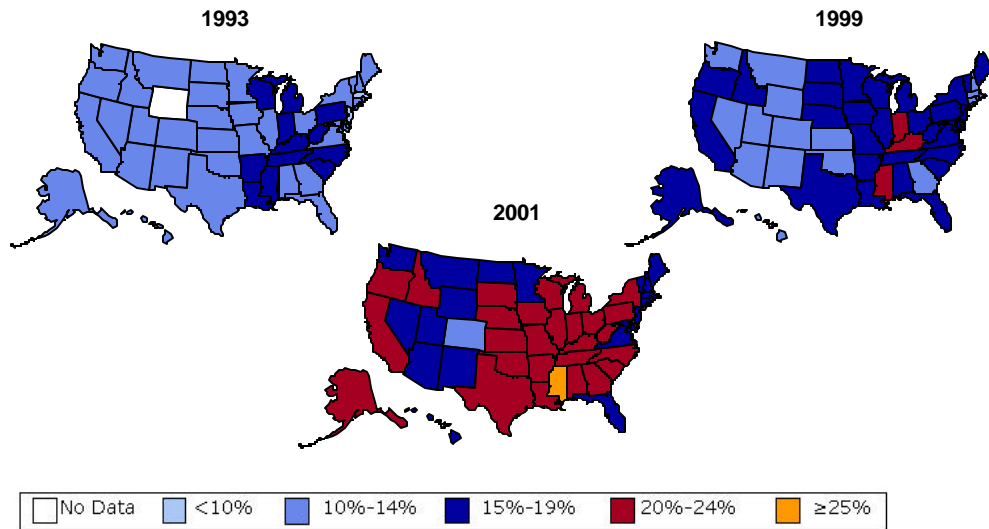
- Milmo, Cahal, 2002. "Fat is a consumerist issue: how a grease tax may encourage healthier habits", Independent News, July 16, 2002; viewed at news.independent.co.uk on July 16, 2002.
- Mydans, Seth, 2003. "Clustering in Cities, Asians Are Becoming Obese." The New York Times, March 13, 2003, p. A3.
- National Alliance for Nutrition and Activity (NAMA), 2002. "From Wallet to Waistline: the Hidden Cost of Super Sizing", Washington D.C., June 2002.
- Nestle, Marion, 2002. Food Politics: How the Food Industry Influences Nutrition and Health, University of California, Berkeley, CA, 2002.
- Nielsen, Samara Joy and Barry M. Popkin, 2003. "Patterns and Trends in Food Portion Sizes, 1977-1998", Journal of the American Medical Association, 289/4 (January 22): 450-453.
- Organization for Economic Cooperation and Development (OECD), 2002. Health Data 2000, Paris, France; viewed at www.oecd.org/pdf/M00031000/M00031130.pdf on April 21, 2003.
- Parker-Pope, Tara, 2003. "That Veggie Wrap You Just Chowed Down Is More Fattening Than a Ham Sandwich", The Wall Street Journal, January, 14, 2003, p. D1.
- Parloff, Roger, 2003. "Is Fat the Next Tobacco?" Fortune, February 3, 2003, pp. 51-54.
- Personal experience, Jean Kinsey, eating at Red Lobster, Roseville, MN, March, 2003.
- Putnam, Jane, Jane Allshouse, and Linda S. Kantor, 2002. "U.S. Per Capita Food Supply Trends: More Calories, Refined Carbohydrates, and Fats". Food Review, U.S. Dept. of Agriculture, Economic Research Service, Washington D. C., 25/3: 2-15.

- Raeburn, Paul, 2002. "Why We're So Fat", Business Week, October 21, 2002, pp. 112-114.
- Riley, Rosemary, 2003. "Science and Technology's Answer to the Obesity Challenge", presentation at 2003 Food Update Conference, Ft. Myers, FL, April 7, 2003; available at www.foodupdate.org on April 24, 2003.
- Shell, Ellen Ruppel, 2003. "An International School Lunch Tour", The New York Times, February 1, 2003, p. A31.
- Silverman, Richard S., 2003. "Class Actions: A Worsening Crisis", prepared for the 2003 Food Update Conference, Ft. Myers, FL, April 8, 2003; available at www.foodupdate.org on April 24, 2003.
- Smith, Timothy K., 2003. "We've Got To Stop eating Like This", Fortune, February 3, 2003, pp. 58-70.
- Spake, Amanda, 2002. "A Fat Nation", U. S. News and World Report, August 19, 2002, pp. 40-47.
- Stone, Ann, 1997. "Lean? No Thanks", R & I Magazine, May 15, 1997; viewed at www.rimag.com/10/lean.htm on May 1, 2003.
- Subway Corporation, 2003. "Healthy Alternatives", Subway Website; at www.subway.com on May 2, 2003.
- U. S. Food and Drug Administration (FDA), 2002. "Overweight, Obesity Threaten U.S. Health Gains", FDA Consumer, 36/2(March-April): 1-2; viewed on www.fda.gov/fdac/features/2002/202_fat.html on April 22, 2003.
- U.S. Dept. of Health and Human Services (U. S. DHHS), Public Health Service, Office of the Surgeon General, 2001. "The Surgeon General's Call To Action To Prevent

- and Decrease Overweight and Obesity, 2001", Rockville, Maryland; viewed at www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.htm on April 14, 2003.
- Williamson, David, 2001. "UNC Scientists Find U.S. Children Snack More Than They Did Two Decades Ago", Press Release, University of North Carolina, Chapel Hill, NC, March 26, 2001; viewed at www.unc.edu/news/newsserv/research/apr01/popkin040601.htm on April 23, 2003.
- Winslow, Ron and Peter Landers, 2002. "Obese America: Obesity: A World-Wide Woe", The Wall Street Journal, (Eastern Edition) July 1, 2002, p. B1.
- Wolf, Anne and G. Colditz, 1998. "Current Estimates of the Costs of Obesity in the United States." Obesity Research, 6/2:97-106.
- World Health Organization, 2003. Nutrition: Controlling the Global Obesity Epidemic, updated April 9, 2003, Geneva; viewed at www.who.org.int/nut/obs.htm on April 21, 2003.
- Worldwatch Institute, 2000. "Worldwatch News Release: Chronic Hunger and Obesity Epidemic Eroding Global Progress", March 4, 2000, Washington D. C.; viewed at www.worldwatch.org/press/news/2000/03/04 on April 21, 2003.

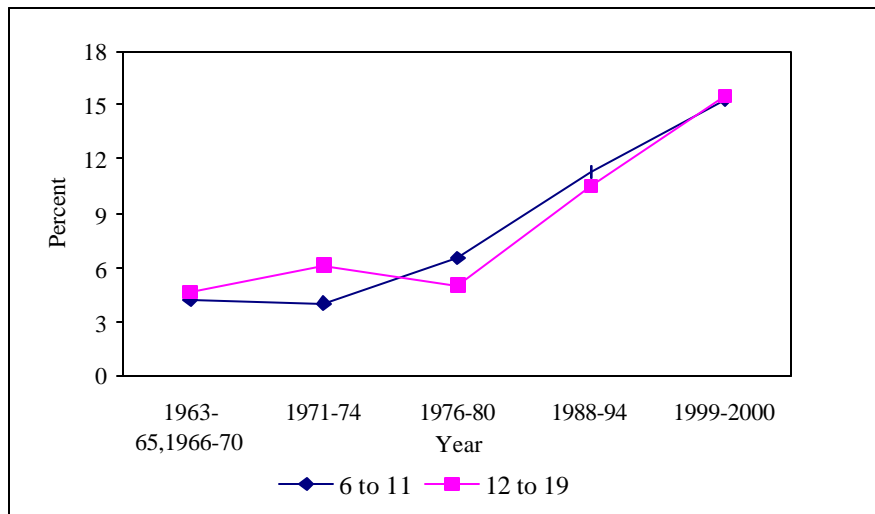
FIGURES AND TABLES

Figure 1 U.S. Obesity Trends 1993 to 2001 (percent of adult population obese by state)



Source: CDC, NCCDPHP, see endnote no. 4

Figure 2 Overweight in Children and Adolescents



Source: CDC, NCCDPHP, see endnote no. 1.

Figure 3 Calories from the U.S. Per Capita Food Supply



Source: Putnam, Allshouse and Kantor, see endnote no. 14.

Table 1 U.S. Trends for Overweight, Obesity and Severe Obesity

| | Increase in Prevalence (%) of Overweight, Obesity and Severe Obesity Among U.S. Adults | | |
|--------------|--|---------|----------------|
| | Overweight | Obesity | Severe Obesity |
| 1999 to 2000 | 64.5 | 30.5 | 4.7 |
| 1988 to 1994 | 56.0 | 23.0 | 2.9 |
| 1976 to 1980 | 46.0 | 14.4 | No Data |

Source: CDC, National Center for Health Statistics. 2002. National Health and Nutrition Examination Survey. Health, United States, see endnote no. 1.

Table 2 Obesity Trends in Other Countries (percent of the adult population)

| | Most Recent Data (year) | Earlier Data (year) |
|----------------|-------------------------|---------------------|
| Australia | 20.8 (1999) | 8.7 (1990) |
| United Kingdom | 21.0 (2000) | 14.0 (1991) |
| Canada | 14.6 (1998) | 13.2 (1994) |
| Spain | 12.9 (1997) | 7.7 (1987) |
| France | 9.6 (2000) | 6.5 (1992) |
| Sweden | 9.3 (2000) | 5.5 (1989) |
| Netherlands | 8.7 (2000) | 6.1 (1990) |
| Italy | 8.6 (2000) | 7.0 (1994) |
| Japan | 2.9 (2000) | 2.3 (1990) |

Source: OECD Health Data 2002, see endnote no. 13.