# OBESITY, LIABILITY \& INSURANCE 

## 45

# Insurance Information Institute 

110 William Street
New York, NY 10038
(212) 346-5500
www.iii.org

Robert P. Hartwig, Ph.D., CPCU
Senior Vice President \& Chief Economist
Claire Wilkinson
Director, Global Insurance Issues

## Introduction

Overweight and obesity rates in the US and Europe are on the rise, triggering major public health concerns. Obesity-related illnesses, such as heart disease and certain types of cancer, are the second leading preventable cause of premature death in the US today, behind tobacco-related illnesses. According to latest data in the 1999-2000 National Health and Nutrition Examination Survey (NHANES), nearly two-thirds of US adults are either overweight or obese and there are twice as many overweight children and three times as many overweight adolescents as there were in 1980 (Exhibit 1). The percentage of adult Americans who are obese/overweight is three times as great as those who smoke. A study from the Rand Corporation estimates that the percentage of Americans with clinical severe obesity (about 100 pounds overweight) increased from one in 200 adults in 1986 to one in 50 adults in $2000 .{ }^{1}$ Obesity was also named the top health story of 2003, according to the December issue of the Harvard Medical School's Harvard Health Letter.

While statistics show that less than one third of adults engage in the recommended amounts of physical activity and many people live sedentary lives, much of the blame for America's and Europe's expanding girth is being laid at the door of the food industry. In recent months snack food manufacturers and fast-food giants, including Kraft Foods and McDonald's, have become the target of lawsuits seeking to hold them liable for the alleged detrimental effects of consuming their products. Similar to earlier lawsuits targeting "Big Tobacco", and more recent suits against the alcohol industry, the obesityrelated cases are another example of a trend toward attempting to attach liability for broad social and health concerns to private sector defendants. Even though insurers have never paid any tobacco settlements or defense costs, there are concerns that the legal cases against the food industry could leave insurers exposed to potential claims under certain general liability and product liability coverages.

## What is Obesity?

Body Mass Index (BMI) has become the medical standard used to define whether a person is overweight or obese. BMI is calculated by dividing a person's weight in pounds

[^0]by the square of their height in inches, multiplied by 703. Alternatively, BMI can be calculated as a person's weight in kilograms divided by the square of their height in meters. More than 50 scientific and medical organizations have endorsed National Institutes of Health (NIH) clinical guidelines that support the use of a BMI of 25 to 30 to identify people as overweight, and a BMI of 30 and greater to identify obesity in adults (Exhibit 2). For example, an adult who is five feet six inches tall and weighs 150 pounds would have a BMI of 24 - a healthy weight. If that same adult weighed 190 pounds, their BMI would jump to 31 - meeting the definition of obesity (Exhibit 3). NIH studies indicate that although BMI does not show the difference between excess fat and muscle, it is closely associated with measures of body fat. It is also a good predictor of the development of health problems related to excess weight.

Overweight and obesity have reached epidemic proportions in the US and cut across all lines of age, race and ethnicity, and gender, according to the Surgeon General ${ }^{2}$. The Centers for Disease Control and Prevention (CDC) reports, based on Behavioral Risk Factor Surveillance System (BRFSS) data, that in 1991 only four of 45 participating states had obesity prevalence rates of 15 to 19 percent and none had rates greater than 20 percent. By the year 2000, all 50 states except Colorado had obesity prevalence rates of 15 percent or greater, with 22 of the 50 states having obesity prevalence as high as 20 percent or greater (Exhibit 4). Age-adjusted statistics from the National Health and Nutrition Examination Survey (NHANES) confirm the substantial increases in overweight and obesity across the country. The most recent 1999-2000 NHANES found that some 33 percent of US adults aged 20 to 74 years are overweight and an additional 31 percent are obese. As Exhibit 1 shows, this contrasts with an obesity rate of just 15 percent in the late 1970s. The CDC estimates that by 2010 about 40 percent of Americans, or 68 million individuals, could be obese.

According to the Surgeon General, a combination of physical inactivity and unhealthy eating patterns are also causing a rising incidence of obesity in children. The latest data from the NHANES estimates that 15 percent of children aged 6 to 11 years and adolescents aged 12 to 19 years are overweight. This means that during the past two

[^1]decades, the percentage of children who are overweight has more than doubled, and the percentage of adolescents who are overweight has tripled (Exhibit 5). Life-threatening obesity in children is increasingly recognized by doctors as a serious health problem, one which occasionally justifies radical solutions. In the past two years as many as 150 teenagers in the US have had so-called "bariatric" surgery-which surgically shrinks the size of the stomach-to treat obesity, and this trend is growing. ${ }^{3}$

Health consequences of overweight and obesity are serious. The NIH reports that individuals who are obese have a 50 to 100 percent increased risk of premature death from all causes compared to individuals with a BMI in the range of 20 to 25 . The Surgeon General estimates that 300,000 US deaths a year are associated with obesity and overweight, compared to more than 400,000 deaths a year associated with cigarette smoking. Obesity increases the risk of chronic conditions, in particular coronary heart disease, type 2 diabetes, certain cancers and musculoskeletal disorders (Exhibit 6). Chronic conditions such as hypertension and elevated cholesterol are also exacerbated by obesity, and the rate of chronic illness in obese individuals is significantly higher than in those who smoke or are heavy drinkers (Exhibit 7). In addition, NIH studies note that obese individuals may suffer from social stigmatization and discrimination.

## Obesity and Insurance: Overview of Sectoral Impacts

Obesity is an international epidemic that has direct consequences for insurers and reinsurers around the world (Exhibit 8). The economic and social costs of obesity, discussed in detail in the next section, are immense and growing. Many of these costs are passed along to insurers in the form of claims. Many important sectors of the insurance industry are affected:

- Health Insurance: This sector bears the direct cost of treating overweight and obese individuals who are privately (or publicly) insured. According to a Rand Corporation study discussed in the following section, obese people spend 36 percent more on health services than people who are normal-weight. Government sponsored health insurance programs such as Medicare and Medicaid, ie, the taxpayers, also bear a very large proportion of these costs. Obesity is a major

[^2]problem in many other countries, including Canada and much of Europe, where the state is the principal financier and provider of health care. Again, these costs are ultimately borne by a nation's taxpayers.

- Life Insurance: Life insurers are directly impacted by the increased prevalence of obesity through its effect on mortality rates. The lifespan of an obese individual is shortened, on average, by 7 years. Life insurers must account for such differences in their underwriting. For this reason, life insurance for overweight and obese people generally costs more than for normal-weight people. In group life insurance plans, obesity is so far generally not a factor used to rate individuals in the plan, whereas smoking, age and gender usually are. Normal weight people in such plans implicitly subsidize obese and overweight participants.
- Disability Insurers: Overweight and obese individuals have more chronic health problems than normal weight people, resulting in tens of millions of lost work days annually. The increased prevalence of obesity, which increases the incidence rates of serious disease, is therefore a cost driver for disability insurers.
- Workers Compensation: Because overweight and obese people suffer from a higher incidence of chronic disease, including musculoskeletal disorders, recovery from any given injury or illness-including those that occur in the workplace or as the result of occupational exposures-is likely to be more difficult and more expensive than for normal weight individuals. For workers compensation insurers, direct costs include higher medical payouts for medical treatments, pharmaceuticals, physical therapy and rehabilitative services. Indemnity (income replacement) costs will also rise given the likelihood of slower recoveries and increased time away from work for obese and overweight workers.
- Liability \& Excess Casualty Insurance: Liability and excess casualty insurers are potentially vulnerable to a wide range of exposures arising from allegations of negligence and/or fault on the part of their insureds (policyholders). The pool of potential defendants in obesity cases is broad and deep and cuts a wide swath across American business-extending well beyond food manufacturers and fast food restaurants. Among them are advertising agencies that develop campaigns
for "junk" foods, broadcasters and publishers who accept those advertising dollars, firms that co-market their products (such as toys) with food/beverage companies, restaurant franchisees and event organizers and promoters that accept sponsorships from food and drink makers whose products are deemed unhealthy.


## Economic Implications

The high cost of treating weight-related illnesses adds significant strain to the country's already overburdened health care system. The Surgeon General estimates the total direct and indirect costs attributed to overweight and obesity amounted to $\$ 117$ billion in 2000, or around 10 percent of total healthcare costs. It defines direct costs as preventive, diagnostic and treatment services-physician visits and hospital/nursing home care, for example. Indirect costs include the value of wages lost by people unable to work due to illness or disability, as well the value of future earnings lost because of premature death. An earlier study ${ }^{4}$ put the total economic burden of obesity at $\$ 99.2$ billion in 1995. This included 39 million lost work days, 239 million restricted-activity days, 90 million bed days and 63 million physician visits.

US healthcare costs have been rising for several years and it is reasonable to assume that if the risk of serious illness increases with a BMI in excess of 25 , so will potential health costs. Healthcare spending in the US reached a record $\$ 1.4$ trillion in 2001, an 8.7 percent increase over 2000 (Exhibit 9). A jump of as much as 15 percent is forecast for 2003. Indeed, a study by the Rand Corporation ${ }^{5}$, indicates that obese individuals spend approximately 36 percent more than normal-weight individuals on health services, and 77 percent more on medications (Exhibit 10). This compares with increased spending of 21 percent for current smokers.

## What Causes Obesity?

An imbalance of excess calories in the diet and low energy expenditure due to lack of physical activity can lead to obesity (Exhibit 11). According to the CDC, less than one-

[^3]third of US adults engage in the recommended amounts of physical activity. In fact, some 40 percent do not participate in any leisure time physical activity, while 43 percent of adolescents watch more than two hours of television each day. An independent report by experts commissioned by the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) ${ }^{6}$, published in March 2003, called for a reduction in consumption of foods high in saturated and trans fats, sugar and salt, noting that they are often found in snacks, processed foods and drinks (Exhibit 12). According to its findings, evidence suggests that excessive consumption of energy-rich foods can encourage weight gain. It warned that in 2001, chronic diseases resulting from unbalanced diets contributed to approximately 59 percent of the 56.5 million total reported deaths from all causes worldwide. Chronic diseases associated with obesity also accounted for 46 percent of the global burden of disease. The report stated: "Unbalanced consumption of foods high in energy (sugar, starch and/or fat) and low in essential nutrients contributes to energy excess, overweight and obesity. The amount of energy consumed in relation to physical activity and the quality of food are key determinants of nutrition-related chronic disease." Its specific recommendations on diet include limiting fat to between 15 and 30 percent of total daily energy intake and saturated fats to less than 10 percent of this total. Free sugars should remain beneath 10 percent while salt should be limited to less than five grams a day. It also recommended carbohydrates should account for between 55 percent and 75 percent of diet, and protein should make up between 10 and 15 percent, while intake of fruit and vegetables should be in the region of 400 grams a day.

The US Department of Agriculture (USDA) is also in the process of reassessing its wellknown Food Guide Pyramid in response to recent nutritional recommendations and expects to release a new design by 2005 (Exhibit 13 \& 14). The current pyramid was introduced in 1992 to help Americans implement dietary guidelines. Among the possible changes being considered by USDA are:

- assigning target calorie levels based on individuals with sedentary lifestyles, given the sedentary lifestyles of many Americans.

[^4]- listing quantities in cups and ounces instead of servings to suggest daily amounts to choose from each food group
- providing more specific serving information for 12 different calorie levels, from 1,000 to 3,200 calories a day

In another development aimed at tackling the nation's obesity epidemic, the Food and Drug Administration (FDA) has announced initial plans to introduce national standards for nutritional information displays in restaurants. The FDA currently lacks regulatory authority to require such displays, so the proposals would require either voluntary participation from companies or legislation by Congress. The FDA may also change its requirements for nutrition labels on packaged food and beverages sold in outlets such as grocery stores.

Several reports make the point that obesity and overweight are caused by many different factors, in addition to diet and physical activity patterns. According to the Surgeon General: "For each individual, body weight is determined by a combination of genetic, metabolic, behavioral, environmental, cultural and socioeconomic influences. Behavioral and environmental factors are large contributors to overweight and obesity and provide the greatest opportunity for actions and interventions designed for prevention and treatment." The Rand report also identified a number of significant lifestyle changes occurring in the past two decades that have caused Americans to exercise less while maintaining at least the same caloric intakes. It said these include desk jobs, an increase in the number of hours devoted to television watching, and car-friendly (i.e., pedestrianand bike-hostile) urban environments. Others point to longer working hours, dual income families, and single mothers working outside of the home as resulting in increased demand for convenience foods. Another study published in the Journal of the American Academy of Pediatrics in October 2003, monitored 15,000 boys and girls, aged 9 to 14 , for dieting to control weight, binge eating, and dietary intake. It found that while medically supervised weight control may be beneficial for obese youth, frequent dieting to control weight is not only ineffective, it may actually promote weight gain. ${ }^{7}$ Changes

[^5]in metabolism were cited as one possible reason, but a more likely reason, according to the report, is that dieting is often not maintained for long periods and is frequently followed by binge eating.

## Obesity Litigation

Given the alarming facts regarding obesity in America, both in terms of the financial burden it imposes on the economy and toll it exacts in human lives and suffering, it was perhaps inevitable - especially considering trends in the US tort system - that litigation would erupt.

To date, the most publicized obesity-related lawsuit involving the food industry was filed against McDonald's in 2002 on behalf of a group of obese New York teenagers. Among other things, the suit alleged that the company acted negligently in selling foods that were high in cholesterol, fat, salt and sugar. In January 2003, US District Court Judge Robert Sweet dismissed the suit, saying that plaintiffs had failed to show that McDonald's products are "so extraordinarily unhealthy that they are outside the reasonable contemplation of the consuming public or that the products are so extraordinarily unhealthy as to be dangerous in their intended use." However, the court gave plaintiffs' lawyers 30 days to file an amended suit, with suggestions on how to proceed. In February 2003, lawyers filed their amended case this time accusing McDonald's of "deceptive practices in the promotion, distribution, advertising, processing and sale of certain products," including Chicken McNuggets, Filet-o-Fish, chicken sandwiches, French fries, and hamburger-beef products. In early September 2003, Judge Sweet dismissed the suit, criticizing lawyers for failing to show that McDonald's advertising misled consumers. Judge Sweet also noted that the lawyers did not adequately link McDonald's menu to health problems such as diabetes, heart disease, high blood pressure and cholesterol. "Plaintiffs have not made any attempt to isolate the particular effect of McDonald's foods on their obesity and other injuries," Judge Sweet noted. The suit, which sought class action status, generated intense international media coverage on the issue of fast-food liability.

Another case that attracted significant attention was a recent California lawsuit in May 2003 against Kraft Foods, the manufacturer of Oreo cookies. The plaintiff

BanTransFats.com Inc, a non-profit group, asked the court to order Kraft to cease from target marketing and selling Oreo cookies to children in California until such cookies contain no trans fat. The rationale for the lawsuit was that the existence and danger of trans fat was not common knowledge, especially as it was not listed on the Nutrition Facts label, and very few children were aware of it. The group later withdrew the suit in May 2003, after the enormous publicity the case generated made the dangers of trans fat clear. In response, Kraft announced it is looking for ways to reduce the trans fat in Oreo cookies. In July 2003, in what many described as a landmark announcement, the company also unveiled plans to reduce portion sizes, cut the fat and sugar content of many products and stop marketing its products in schools.

Yet another high-profile fat-related suit was filed against McDonald's in May 2001 by three vegetarians, who alleged the company failed to disclose that its French fries were precooked in beef fat, while promoting them as vegetarian fries. The case was eventually settled in 2002 for $\$ 12.5$ million. McDonald's posted an apology on its website for not providing customers with complete information and for any hardship these miscommunications had caused among Hindus and other vegetarians.

As publicity over the fast food liability issue has intensified, so the number of lawsuits has grown. In the summer of 2003 a group of lawyers, public health officials and consumer advocates held an obesity-litigation conference in Boston where they discussed future legal strategies and possible regulation of the fast-food industry in regard to the production of allegedly unhealthy foods.

It is curious that some of the most litigious states in the country are those with the highest obesity rates. For example, the US Chamber of Commerce 2003 States Liability Systems Ranking Study ranks Mississippi last among 50 states in terms of its liability system. Mississippi also has the worst obesity rate in the nation, according to the CDC, with an obesity prevalence of 25.9 percent in 2001. Similarly, West Virginia, Alabama, Louisiana and Texas, which complete the bottom five ranked state liability systems in 2003 all had an obesity prevalence of over 23 percent in 2001.

## Theories of Legal Liability

There are various potential theories of legal liability that might be employed in obesityrelated suits (Exhibit 15). These include:

- Products Liability - the product is dangerous and defective and caused a health hazard and/or injury.
- Personal Injury - use/consumption of the product led to an overweight or obese condition and caused (or increased the probability of developing) certain chronic diseases, including diabetes, heart conditions, hypertension (high blood pressure), high cholesterol, stroke or musculoskeletal disorders.
- Negligence - the manufacturer and/or distributor knew the product was hazardous to health and failed to exercise due care.
- Strict Liability - a defendant bears full liability if there is a defect or side-effect associated with the product that causes extreme harm.
- Failure to Warn - failure to disclose risks associated with use (or overuse) of product (e.g., excessive consumption can lead to disease or death).
- Breach of Warranty - product not as healthy as purported by manufacturer when sold or distributed.
- Misrepresentation - knowingly made claims about product that prove to be false and/or incorrect (e.g., validity of health claims about product is in question, labeling is unclear or deceptive, serving sizes are unrealistic)
- Negligent/reckless marketing or distribution - defendant could be liable if the product was marketed and/or distributed without stating its health risks (similar to lawsuits targeting gun industry).
- Vicarious Liability - obese individual suffers a heart attack while driving and is involved in accident causing fatalities and producing potential legal claim on food manufacturer.
- Advertising Liability - advertising of foods misled consumers; targeting of vulnerable populations, especially children.
- Government Subrogation - as was the case with tobacco companies, states and/or the federal government could bring actions to recover funds paid out for health care and medical assistance to citizens suffering from diseases associated with obesity.

Food and beverage manufacturers, advertisers, restaurants etc are also subject to rules of recovery such as "joint liability", which create potentially enormous exposure despite only a minimal finding of fault. An example would be a rancher in Nebraska or a wheat farmer in North Dakota being named as a co-defendant in an obesity suit against McDonald's. Commonly cited abuses in the civil justice system such as forum shopping for class action suits also potentially expand exposure.

## Children and Fast Food

Given the national obesity statistics on children and adolescents, it is not surprising that the way in which snack and fast-food companies market their products to these segments of the population is coming under increasing scrutiny. In the book "Fast Food Nation", Eric Schlosser cited a survey of American schoolchildren that found that 96 percent could identify Ronald McDonald. According to the survey, the only fictional character with a higher degree of recognition was Santa Claus.

Restaurant chains, snack food manufacturers and purveyors of sugary drinks each year spend large sums marketing their products directly and indirectly to children. In recent years, cable television channels such as Nickelodeon and the Cartoon Network have succeeded in attracting millions of young, loyal viewers. A wide range of advertisers sponsor the programs and buy ad space in children's publications, but fast food franchises and snack and drink makers account for a significant share of the advertising. Young children can easily recognize corporate logos and symbols (e.g., the "Golden Arches" of McDonald's), characters (e.g., Ronald McDonald) and jingles long before they can read, and correctly associate them with the product being promoted.

Food ads directed toward children are often co-marketed with other products connected to popular cartoon characters (e.g., Sponge Bob Square Pants, Scooby Doo) or toys (e.g.,

[^6]Barbie, Yu-Gi-Oh, Pokemon). In a similar way, the tobacco industry over the years launched catchy advertising campaigns that appeared to be directed at teenagers and children. For example, in 1988, tobacco company RJ Reynolds introduced its popular Joe Camel cartoon in the US aimed at spreading awareness of its Camel brand of cigarettes. The cigarette maker later scrapped the campaign after being accused of targeting underage smokers. A study published by the Journal of the American Medical Association in 1991 had shown that schoolchildren recognized Joe Camel almost as easily as they recognized Mickey Mouse. Other controversial characters created by the tobacco companies include the Marlboro Man and Willie the Penguin (Kools).

The liquor industry has recently found itself embroiled in similar litigation. A November 2003 suit alleging that the industry targets underage drinkers in its advertising was filed in the Superior Court in the District of Columbia against some of the world's biggest makers of alcoholic beverages, including Diageo PLC, Bacardi Ltd. and Adolph Coors Co. The suit, which seeks class action status and damages, seeks to create and represent two distinct classes: parents and guardians of underage drinkers and parents and guardians of young people subjected to the advertising.

## Example: Analysis of Food-Related Advertising on Children's Television

Advertising and marketing directed at children totaled $\$ 15$ billion in 2002, up from $\$ 6.9$ billion in 1992. ${ }^{9}$ A very large proportion of those dollars are spent on food-related promotions. A recent analysis ${ }^{10}$ of advertisements aired on Nickelodeon, a popular children's television network, over the course of one week shows just how pervasive food, drink and candy ads have become. The ads were aired during the same four-hour period (7am-11am) daily from October 8 to October 15, 2003 (excluding October 13). As the chart below shows, of the total of 675 ads aired in this period, food, drink and candy ads accounted for some 24 percent, almost one in four ads - one nearly every 10 minutes. Food, drink and candy ads were the second largest category of ads aired during the period, after toys and games, which accounted for 56.7 percent, or 383 of the total (Exhibit 16). Entertainment ads, such as movie and event previews, ranked third with

[^7]some 76 ads, or 11.3 percent of the total. A further analysis of all the food, drink and candy ads in that time period shows that nearly one half were comprised of fast food restaurant, candy and snack ads (Exhibit 17). Only 12 percent were advertising comparatively healthy soup and yogurt products. Eight percent of advertisements were for drinks of varying degrees of nutritional value, including soda as well as chocolate milk and vitamin-C enriched fruit drinks.

| Nickelodeon Advertisements 10/8/03-10/15/03 |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | WEDS <br> Oct 8 | THUR <br> Oct 9 | FRI <br> Oct 10 | SAT <br> Oct 11 | SUN <br> Oct 12 | TUES <br> Oct 14 | WEDS <br> Oct 15 | Total <br> Ads: | \% of <br> Ads: |
| Toys \& Games | 53 | 55 | 49 | 50 | 60 | 57 | 59 | $\mathbf{3 8 3}$ | $\mathbf{5 6 . 7 \%}$ |
|  <br> Candy | 20 | 25 | 26 | 24 | 23 | 24 | 20 | $\mathbf{1 6 2}$ | $\mathbf{2 4 \%}$ |
| Entertainment | 11 | 12 | 14 | 15 | 9 | 9 | 6 | $\mathbf{7 6}$ | $\mathbf{1 1 . 3 \%}$ |
| Paper Products | 4 | 4 | 5 | 1 | 0 | 2 | 1 | $\mathbf{1 7}$ | $\mathbf{2 . 5 \%}$ |
| Clothing, Shoes <br> \& Bedding | 1 | 1 | 4 | 0 | 1 | 2 | 1 | $\mathbf{1 0}$ | $\mathbf{1 . 5 \%}$ |
| Baby Products | 2 | 4 | 0 | 0 | 0 | 2 | 1 | $\mathbf{9}$ | $\mathbf{1 . 3 \%}$ |
| Public Service | 2 | 2 | 0 | 1 | 2 | 1 | 1 | $\mathbf{9}$ | $\mathbf{1 . 3 \%}$ |
| Toiletries | 1 | 1 | 0 | 0 | 1 | 1 | 1 | $\mathbf{5}$ | $\mathbf{0 . 7 \%}$ |
| Cars | 0 | 0 | 0 | 0 | 0 | 2 | 1 | $\mathbf{3}$ | $\mathbf{0 . 4 \%}$ |
| Electronics | 0 | 0 | 0 | 0 | 0 | 0 | 1 | $\mathbf{1}$ | $\mathbf{0 . 1 4 \%}$ |
| Total Ads: | $\mathbf{9 4}$ | $\mathbf{1 0 4}$ | $\mathbf{9 8}$ | $\mathbf{9 1}$ | $\mathbf{9 6}$ | $\mathbf{1 0 0}$ | $\mathbf{9 2}$ | $\mathbf{6 7 5}$ | $\mathbf{1 0 0 \%}$ |

Food and beverage companies have long maintained a strong foothold in schools, where they often have vending machines and franchises. Sponsorship of sporting events is common as well. Brightly-colored food and give-away toys are other examples of how food is made more attractive to children. Recently, several public school districts have taken steps to remove candy, soda and sweet snacks from their schools. For example, in August 2003 the Texas Agriculture Department amended its school food guidelines to prohibit access to carbonated beverages, chewing gum and certain candy in all its elementary schools and to limit access at higher grades. California has also introduced
legislation prohibiting the sale of fast food in elementary schools and banning the sale of soda in middle schools. While educators in some parts of the country are restricting access to foods deemed to be unhealthy, cash-strapped school systems find the franchise fee they receive in exchange for the right to market to children difficult to resist. New York City, for example, negotiated a deal in November 2003 giving Snapple exclusive rights to sell drinks and snacks on city property. The deal is expected to generate as much as $\$ 166$ million for New York.

It is interesting to note that as part of its plans to address the obesity epidemic, Kraft Foods said its changes would include advertising and marketing to children that would encourage appropriate eating behaviors and active lifestyles.

## Insurance, Obesity \& Liability

Quite apart from the emerging obesity issue, the cost of insuring America's businesses against rising liability awards has been increasing for some time. A recent report compiled by industry experts and the US Chamber of Commerce noted that rising liability costs have made it significantly more difficult for companies to secure quality commercial umbrella insurance to protect against potentially catastrophic losses. It pointed to the extraordinary long tail nature of liability claims, whereby the injury or illness giving rise to claims often takes many years to develop after the original exposure(s) to the product occurred. Historically, the policies insuring against such claims were written on a purely "occurrence basis" -- covering only claims arising out of incidents occurring during the policy term, even if these claims are filed many years later. That has left carriers paying out exorbitant sums for risks they never could have anticipated and did not charge for when the policy was originally issued. Asbestos is cited as a prime example of this.

A study of liability policy limits by insurance broker Marsh Inc., noted that the average cost for liability insurance increased 63.4 percent during the 12 -month period ending January 31, 2003. It found the limits purchased by all companies fell by 9.4 percent in 2003, reflecting the continued rise in insurance costs as well as the sluggish economy (Exhibit 18). In the US, the industry group including food (Food, Agriculture, Tobacco \& Textiles) purchased average liability limits of $\$ 84$ million, ranking ninth highest among

23 industry groups, down from $\$ 86$ million in 2002 (Exhibit 19). That group also paid an average cost of $\$ 7,858$ per $\$ 1$ million of coverage, more than double the $\$ 3,727$ it paid in 2002 (Exhibit 20). Further, the report showed that in the Food, Agriculture, Tobacco \& Textiles group, average limits for those businesses with revenues exceeding $\$ 10$ billion amounted to $\$ 344$ million, slightly above the $\$ 335$ million average for all large US businesses.

Given the increasing cost and even scarcity of certain types of liability coverage, the recent obesity-related litigation against the fast food industry is of special concern. While some large food manufacturers and restaurants may be completely or partially selfinsured, smaller companies are likely to have purchased coverage. If they are brought into the litigation, this could lead to potential claims under their general and product liability policies. Many entities are likely to have purchased commercial umbrella and excess casualty policies that could be impacted by high dollar settlements and awards. Franchisees of large restaurant chains are also vulnerable, as they are frequently responsible for making their own insurance arrangements. Marketing partners, such as owners of copyrighted/trademarked cartoon characters, film studios, event promoters and others are also potentially vulnerable. In fact, a large variety of industries are potentially at risk (Exhibit 21), including:

- Agriculture
- Food Processors \& Manufacturers
- Beverage Makers
- Food Distributors, Grocers
- Restaurants \& Franchises
- Advertising Agencies
- TV Networks/Magazines/Newspapers
- Toy Manufacturers
- Sporting/Entertainment Event Organizers

As discussed previously, the implications of obesity and overweight for insurers and reinsurers extend well beyond commercial liability coverages. Overweight and obese workers are likely to cost workers compensation insurers more, in part because higher rates of pre-existing weight-related illness and disease make medical recovery more complex and less successful than for physically fit workers with similar injuries. Consequently, medical costs for obese and overweight people injured on the job are likely to be higher and time away from work is likely to be longer, driving up wage replacement (indemnity) payments.

Life insurers take certain health conditions into account when applications for insurance are made. Overweight non-smokers lose on average three years on their lifespan, while obese non-smokers lose seven years (Exhibit 22). The lifespan of obese smokers is shortened by 13.5 years on average. Similarly, some health insurers now take into account an individual's body-mass index, in addition to other factors such as tobacco use and blood-pressure level, when setting premiums. Those individuals with a "preferred rating" would pay less than those who smoke, are overweight and have high blood pressure. Given the higher costs imposed on the healthcare system by obesity and overweight, this is a way for insurers to price risks more accurately and to incentivize policyholders. Other incentives being offered by health insurers include discounts on health club memberships, wellness programs, nutrition counseling and even frequent flier miles for meeting weight-loss targets.

## Food Trends

Food consumption patterns have changed markedly over the years as the growth of 24/7 grocery stores, fast-food outlets and restaurants have transformed both the availability and choice of products for consumers. Author Eric Schlosser ${ }^{11}$ notes that in 1970 Americans spent about $\$ 6$ billion on fast food, and in 2001 they spent more than $\$ 110$ billion. "Americans now spend more money on fast food than on higher education, personal computers, computer software, or new cars. They spend more on fast food than on movies, books, magazines, newspapers, videos, and recorded music - combined," he wrote.

[^8]Recent studies confirm that portion sizes in the US have increased significantly over the years. A study conducted by Dr. Lisa Young and Dr. Marion Nestle of New York University and published in the Journal of the American Dietetic Association in February 2003 found that the sizes of ready-to-eat prepared foods have increased substantially since they were first introduced to the marketplace (Exhibit 23). For example, the original Hershey's bar weighed 0.6 oz when it was introduced back in 1908. Today, the average size of a Hershey's bar ranges from 1.6 to 8.0 oz .

Fast food companies are offering larger sizes of hamburgers, sodas and French fries. Even children's meals can be upsized easily (e.g., Burger King's "Big Kids" meal). According to the NYU study, current sizes are often two to five times larger than the original size. It also compares portion sizes of ready-to-eat prepared foods with federal standard serving sizes. "These data indicate that with the exception of sliced white bread, the sizes of marketplace portions exceed federal standards often by at least a factor of 2 (bagels, sodas) and sometimes by as much as 8 (cookies)," the study noted.

An earlier study by the National Alliance for Nutrition and Activity (NANA) looked at the financial and caloric costs of upgrading to larger portion sizes of single-serve foods at fast food restaurants, convenience stores, and other retail food establishments. Its results indicated that while upgrading to larger portions often increases price only modestly, it substantially increases calorie and fat content. Its major findings included the following:

- At movie theaters, upgrading from a small (\$3.13) to a medium-sized bag of popcorn without butter costs just 71 cents more, but adds an additional 500 calories.
- At 7-Eleven it costs just 37 cents more to upgrade a soft drink to the Double Gulp (the largest size available) from the Gulp (the smallest size), but it contains four times as many calories (around 600)
- At McDonalds, the difference between a Quarter Pounder with Cheese and a Quarter Pounder w/Cheese medium Extra Value Meal (with medium fries and medium Coke) is $\$ 1.41,660$ calories and 4 grams of saturated fat. In addition, a medium Quarter Pounder w/Cheese Extra Value meal costs just \$3.74, compared to an average of $\$ 5.03$ if each component is purchased separately.

The report concluded: "Value marketing is ubiquitous, and "getting more for your money" is ingrained in the American psyche. However, bigger is rarely better when it comes to food. The true price of larger portions is larger calorie and saturated fat numbers - and larger waistlines."

## Legal Indigestion: Obesity Suits Face Many Obstacles

As media coverage focuses on the possibility of fast food becoming the next tobacco, key questions remain over whether the pending complaints will actually succeed in court. The suit brought by several vegetarians which resulted in a $\$ 12.5$ million settlement by McDonalds rested on the company's failure to disclose that the oil used to cook its French fries contained beef extract, so consumers did not know what they were eating and were misled. However, it may be more difficult for overweight or obese individuals to argue that they did not know that eating large amounts of fast food was unhealthy.

A recent report prepared for the US Chamber of Commerce and the US Chamber Institute for Legal Reform ${ }^{12}$ argued that under the concept of "personal responsibility", consumers have freedom of choice when it comes to what they eat and that it is very easy to find out nutritional data on fast food (Exhibit 24). It also notes that fast food presents a very different case from tobacco litigation, and makes three main arguments:

- Fast food meals are not chemically addictive
- Swallowing food is a distinctly individual act, so it would be difficult to make a case for becoming sick or cancerous from "second hand" eating
- Cigarette research has been consistent for decades in pointing to the physical effects of smoking. Diet advice and research has been much less consistent, even contradictory, and fast food firms have been reacting to the changing tastes and nutritional expectations of customers.

However, other groups maintain that food can be addictive and that the food industry has purposely manipulated consumer tastes for unhealthy foods. According to the Physicians Committee for Responsible Medicine (PCRM), foods such as cheese, chocolate, sugar

[^9]and meat all trigger the release of drug-like substances that stimulate the brain's pleasure center and make them harder to resist. PCRM president Neal Barnard also claims that the food industry has manipulated the potentially addictive qualities of some ingredients in its products. For example, his research shows that industry scientists have labored to find exactly the right balance of fat and sugar to keep people consuming chocolate. According to his findings, USDA-sponsored marketing promotions focused on "triggering the cheese craving". Another study from researchers at the University of Wisconsin suggests that a high-fat diet alters brain biochemistry with effects similar to drugs such as morphine. It found that rats given a high-fat diet became addicted and displayed withdrawal symptoms similar to drug addicts when the concentration of fat in their diet was removed.

The obesity/overweight issue is in its early stages and it is too soon to know how it will develop. Nonetheless, given the history of litigation arising out of asbestos, environmental, tobacco and other liabilities, it would be a mistake to dismiss it as farfetched. This emerging issue has direct consequences for many industry sectors, including insurance and reinsurance. It will require careful attention in the months ahead.

Following this report are 24 tables which illustrate the obesity, liability and insurance issue, as discussed above.

For additional information, see:

- Insurance Information Institute, www.iii.org
- US Department of Health and Human Services, www.hhs.gov
- Rand Corporation, www.rand.org
- Centers for Disease Control and Prevention, www.cdc.gov
- US Surgeon General, www.surgeongeneral.gov
- World Health Organization, www.who.int
- Food and Agriculture Organization, www.fao.org
- US Department of Agriculture, www.usda.gov
- Food and Drug Administration, www.fda.gov
- American Academy of Pediatrics, www.aap.org
- US Chamber of Commerce, www.uschamber.com
- Nickelodeon, www.nick.com
- McDonalds, www.mcdonalds.com
- BanTransFats.com Inc, www.bantransfats.com
- Kraft Foods, www.kraft.com
- R.J. Reynolds, www.rjrholdings.com
- American Medical Association, www.ama-assn.org
- Texas Department of Agriculture, www.agr.state.tx.us
- Marsh Inc, www.marsh.com
- American Dietetic Association, www.eatright.org
- Institute for Legal Reform, www.legalreformnow.com
- Physicians Committee for Responsible Medicine, www.pcrm.org

Exhibit 1
Prevalence of Overweight and Obesity among US Adults (aged 20-74 vears)


Source: Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES); Insurance Information Institute

| Adult Body Mass Index |  |
| :---: | :---: |
| BMI | Weight Status |
| Below 18.5 | Underweight |
| $18.5-24.9$ | Normal |
| $25.0-29.9$ | Overweight |
| 30.0 and Above | Obese |

[^10]
## BODY MASS INDEX TABLE

| Normal |  |  |  |  |  |  | Overweight |  |  |  |  | Obese |  |  |  |  |  |  |  |  |  | Extreme Obesity |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BMI | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| Height (inches) |  |  |  |  |  |  |  |  |  |  |  | Body Weight (pounds) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 58 | 91 | 96 | 100 | 105 | 110 | 115 | 119 | 124 | 129 | 134 | 138 | 143 | 148 | 153 | 158 | 162 | 167 | 172 | 177 | 181 | 186 | 191 | 196 | 201 | 205 | 210 | 215 | 220 | 224 | 229 | 234 | 239 |
| 59 | 94 | 99 | 104 | 109 | 114 | 119 | 124 | 128 | 133 | 138 | 143 | 148 | 153 | 158 | 163 | 168 | 173 | 178 | 183 | 188 | 193 | 198 | 203 | 208 | 212 | 217 | 222 | 227 | 232 | 237 | 242 | 247 |
| 60 | 97 | 102 | 107 | 112 | 118 | 123 | 128 | 133 | 138 | 143 | 148 | 153 | 158 | 163 | 168 | 174 | 179 | 184 | 189 | 194 | 199 | 204 | 209 | 215 | 220 | 225 | 230 | 235 | 240 | 245 | 250 | 255 |
| 61 | 100 | 106 | 111 | 116 | 122 | 127 | 132 | 137 | 143 | 148 | 153 | 158 | 164 | 169 | 174 | 180 | 185 | 190 | 195 | 201 | 206 | 211 | 217 | 222 | 227 | 232 | 238 | 243 | 248 | 254 | 259 | 264 |
| 62 | 104 | 109 | 115 | 120 | 126 | 131 | 136 | 142 | 147 | 153 | 158 | 164 | 169 | 175 | 180 | 186 | 191 | 196 | 202 | 207 | 213 | 218 | 224 | 229 | 235 | 240 | 246 | 251 | 256 | 262 | 267 | 273 |
| 63 | 107 | 113 | 118 | 124 | 130 | 135 | 141 | 146 | 152 | 158 | 163 | 169 | 175 | 180 | 186 | 191 | 197 | 203 | 208 | 214 | 220 | 225 | 231 | 237 | 242 | 248 | 254 | 259 | 265 | 270 | 278 | 282 |
| 64 | 110 | 116 | 122 | 128 | 134 | 140 | 145 | 151 | 157 | 163 | 169 | 174 | 180 | 186 | 192 | 197 | 204 | 209 | 215 | 221 | 227 | 232 | 238 | 244 | 250 | 256 | 262 | 267 | 273 | 279 | 285 | 291 |
| 65 | 114 | 120 | 126 | 132 | 138 | 144 | 150 | 156 | 162 | 168 | 174 | 180 | 186 | 192 | 198 | 204 | 210 | 216 | 222 | 228 | 234 | 240 | 246 | 252 | 258 | 264 | 270 | 276 | 282 | 288 | 294 | 300 |
| 66 | 118 | 124 | 130 | 136 | 142 | 148 | 155 | 161 | 167 | 173 | 179 | 186 | 192 | 198 | 204 | 210 | 216 | 223 | 229 | 235 | 241 | 247 | 253 | 260 | 266 | 272 | 278 | 284 | 291 | 297 | 303 | 309 |
| 67 | 121 | 127 | 134 | 140 | 146 | 153 | 159 | 166 | 172 | 178 | 185 | 191 | 198 | 204 | 211 | 217 | 223 | 230 | 236 | 242 | 249 | 255 | 261 | 268 | 274 | 280 | 287 | 293 | 299 | 306 | 312 | 319 |
| 68 | 125 | 131 | 138 | 144 | 151 | 158 | 164 | 171 | 177 | 184 | 190 | 197 | 203 | 210 | 216 | 223 | 230 | 236 | 243 | 249 | 256 | 262 | 269 | 276 | 282 | 289 | 295 | 302 | 308 | 315 | 322 | 328 |
| 69 | 128 | 135 | 142 | 149 | 155 | 162 | 169 | 176 | 182 | 189 | 196 | 203 | 209 | 216 | 223 | 230 | 236 | 243 | 250 | 257 | 263 | 270 | 277 | 284 | 291 | 297 | 304 | 311 | 318 | 324 | 331 | ${ }^{338}$ |
| 70 | 132 | 139 | 146 | 153 | 160 | 167 | 174 | 181 | 188 | 195 | 202 | 209 | 216 | 222 | 229 | 236 | 243 | 250 | 257 | 264 | 271 | 278 | 285 | 292 | 299 | 306 | 313 | 320 | 327 | 334 | 341 | 348 |
| 71 | 136 | 143 | 150 | 157 | 165 | 172 | 179 | 186 | 193 | 200 | 208 | 215 | 222 | 229 | 236 | 243 | 250 | 257 | 265 | 272 | 279 | 286 | 293 | 301 | 308 | 315 | 322 | 329 | 338 | 343 | 351 | 358 |
| 72 | 140 | 147 | 154 | 162 | 169 | 177 | 184 | 191 | 199 | 206 | 213 | 221 | 228 | 235 | 242 | 250 | 258 | 265 | 272 | 279 | 287 | 294 | 302 | 309 | 316 | 324 | 331 | 338 | 346 | 353 | 361 | 368 |
| 73 | 144 | 151 | 159 | 166 | 174 | 182 | 189 | 197 | 204 | 212 | 219 | 227 | 235 | 242 | 250 | 257 | 265 | 272 | 280 | 288 | 295 | 302 | 310 | 318 | 325 | 333 | 340 | 348 | 355 | 363 | 371 | 378 |
| 74 | 148 | 155 | 163 | 171 | 179 | 186 | 194 | 202 | 210 | 218 | 225 | 233 | 241 | 249 | 256 | 264 | 272 | 280 | 287 | 295 | 303 | 311 | 319 | 326 | 334 | 342 | 350 | 358 | 365 | 373 | 381 | 389 |
| 75 | 152 | 160 | 168 | 176 | 184 | 192 | 200 | 208 | 216 | 224 | 232 | 240 | 248 | 256 | 264 | 272 | 279 | 287 | 295 | 303 | 311 | 319 | 327 | 335 | 343 | 351 | 359 | 367 | 375 | 383 | 391 | 399 |
| 76 | 156 | 164 | 172 | 180 | 189 | 197 | 205 | 213 | 221 | 230 | 238 | 246 | 254 | 263 | 271 | 279 | 287 | 295 | 304 | 312 | 320 | 328 | 336 | 344 | 353 | 361 | 369 | 377 | 385 | 394 | 402 | 410 |

Source: Department of Health and Human Services, National Institutes of Health.

Exhibit 4
Lit Prevalence of Obesity 2000


Source: Behavioral Risk Factor Surveillance System

Exhibit 5
$\downarrow$ Prevalence of Overweight and Obesity Among Children and Adolescents

94)

Source: Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES); Insurance Information Institute

## Health Risks Associated with Exnibit

 Obesity
## Obesity is Associated with an Increased Risk of:

- premature death
- type 2 diabetes
- heart disease
- stroke
- hypertension
- gall bladder disease
- osteoarthritis
- sleep apnea
- asthma
- breathing problems
- cancer (endometrial, colon, kidney, gallbladder, and postmenopausal breast cancer)
- high blood cholesterol
- complications of pregnancy
- menstrual irregularities
- hirsutism (presence of excess body and facial hair)
- stress incontinence (urine leakage caused by weak pelvic-floor muscles)
- increased surgical risk
- psychological disorders such as depression
- psychological difficulties due to social stigmatization

Source: Department of Health and Human Services


Baseline - comparable normal-weight individuals with no history of smoking or heavy drinking

[^11]Exhibit 8

## iit <br> Percentage of Adults Overweight/Obese in Europe vs. U.S.*



* Year of data varies by country (1999-2001).

Source: Organization of Economic and Cultural Development (OECD)



Obese Individuals and Health Care Spending

Obese individuals spend more on healthcare than daily smokers and heavy drinkers.

Source: RAND Health

Exhibit 11
$\leftrightarrows$ Excess Calories: Calories Required vs Calories Produced Daily

No. of Calories


Key Recommendations:

- Limit fat to $15 \%-30 \%$ of total daily energy intake
- Limit saturated fats to less than $10 \%$
- Limit free sugars to under $10 \%$
- Limit salt to less than 5 grams a day
- Carbohydrates should make up 55\%-75\%
- Protein at $10 \%-15 \%$ of daily intake
- Fruit and vegetables - at least 400 grams a day


[^12]
## Food Guide Pyramid Proposals

## Possible Changes:

Assigning target calorie levels based on individuals with sedentary lifestyles, given the sedentary lifestyles of many Americans
Listing quantities in cups and ounces instead of servings to suggest daily amounts to choose from each food group
Provide more specific serving information for 12 different calorie levels, from 1,000 to 3,200 calories a day

| - Products Liability | $>$ Product dangerous/defective and caused <br> health hazard |
| :--- | :--- |
| - Personal Injury | $>$ Obesity, overweight, diabetes, heart <br> condition, high blood pressure, stroke |
| - Negligence | $>$ Knew product was hazardous to health; <br> knew product was addictive? |
| - Strict Liability | $>$ Extreme hazard |
| - Failure to Warn | $>$ Failed to disclose that product associated <br> with various diseases |
| - Breach of Warranty | $>$ Product not as healthy as purported |
| - Misrepresentation | $>$ Health claims valid? |
| - Negligent/reckless marketing or <br> distribution | $>$ Market product w/o stating health risks; <br> market to children (like in gun suits) |
| - Advertising Liability | $>$ Advertising misled consumers (esp <br> children) |
| • Government Subrogation | $>$ E.g. Tobacco settlement w/states; fast <br> food "sin" tax |

Advertisements (10/8-10/15/03)*

Of the total 675 ads shown in the period, food, drink and candy ads accounted for around one in four ads - that's one nearly every 10 minutes.

Food, Drink \& Candy $24 \%$


## tit <br> Types of Food, Drink \& Candy ${ }^{\text {E }}$ Advertisements (by number)



[^13]Average limits purchased by all companies have been declining and fell by $9.4 \%$ in 2003

*Includes underlying primary limits
Source: Limits of Liability 2003, Marsh, Inc.

US Food Industry: Average Limits ${ }^{\text {Exhibit } 19}$ Purchased in 2002 and 2003 (\$ Millions)


[^14]

Source: Marsh, 2003 Limits of Liability Report

Vulnerable Industries
A Universe of Industries are Potentially At Risk:

- Agriculture
- Food Processors \& Manufacturers
- Beverage Makers
- Food Distributors, Grocers
- Restaurants \& Franchises
- Advertising Agencies
- TV Networks/Magazines/Newspapers
- Toy Manufacturers
- Sporting/Entertainment Event Organizers


## 14 Obesity Can Increase the Risk of ${ }^{\text {Efibut } 22}$ Premature Death



Source: USA Today, October 14, 2003

Exhibit 23

## Expanding Portion Sizes

$>$ The original Hershey's bar weighed 0.60 z when it was
 introduced back in 1908. Today, the average size of a Hershey's bar ranges from 1.6 to 8.0 oz!

Fast food companies are offering larger servings of hamburgers, sodas and
 french fries. Current servings are often 2 to 5 times larger than the original size!


[^15]- Fast food meals are not chemically addictive
- Swallowing food is an individual act, so it would be difficult to make a case for becoming sick or cancerous from "second hand" eating
- Cigarette research has been consistent for decades in pointing to the physical effects of smoking. In contrast, diet advice and research has been inconsistent and contradictory and fast food firms have been reacting to the changing tastes and nutritional expectations of customers.
Source: "Burger, Fries and Lawyers: The Beef Behind Obesity Lawsuits", T. Buchholz, conducted for the U.S. Chamber of Commerce and the U.S. Chamber Institute for Legal Reform, July 2, 2003.


[^0]:    ${ }^{1}$ Rand Corp, "Increases in Clinically Severe Obesity in the United States, 1986-2000", Roland Sturm, October 13, 2003.

[^1]:    ${ }^{2}$ US Department of Health and Human Services, "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity 2001".

[^2]:    ${ }^{3}$ Wall Street Journal, "For Obese Teens, A Radical Solution: Stomach Surgery", October 7, 2003.

[^3]:    ${ }^{4}$ "Current Estimates of the economic cost of obesity in the United States." Obesity Research 1998 Mar; 6(2):97-106, Wolf A.M., Colditz G.A.
    ${ }^{5}$ RAND Health, RB4549; Sturm R, "The Effects of Obesity, Smoking, and Problem Drinking on Chronic Medical Problems and Health Care Costs", Health Affairs. 2002;21(2):245-253. Sturm R, Wells KB, "Does Obesity Contribute As Much to Morbidity As Poverty or Smoking?" Public Health. 2001;115:229-295.

[^4]:    ${ }^{6}$ WHO/FAO Expert Consultation on Diet, Nutrition and the Prevention of Chronic Disease, March 2003.

[^5]:    7 "Relation between Dieting and Weight Change Among Preadolescents and Adolescents", October 2003 issue of Pediatrics, journal of the American Academy of Pediatrics.

[^6]:    ${ }^{8}$ Eric Schlosser, "Fast Food Nation", 2002, Harper Collins.

[^7]:    ${ }^{9}$ Center for Science in the Public Interest, "Pestering Parents: How Food Companies Market Obesity to Children," November 2003.
    ${ }^{10}$ Survey conducted by Insurance Information Institute (III).

[^8]:    ${ }^{11}$ Eric Schlosser, "Fast Food Nation", 2002, Harper Collins.

[^9]:    12 "Burger, Fries and Lawyers: The Beef Behind Obesity Lawsuits", Todd Buchholz, conducted for the U.S. Chamber of Commerce and the U.S. Chamber Institute for Legal Reform, July 2, 2003.

[^10]:    Source: Centers of Disease Control and Prevention (CDC)

[^11]:    Source: RAND Health; Insurance Information Institute

[^12]:    Source: US Dept of Agriculture Center for Nutrition Policy and Promotion

[^13]:    Source: Insurance Information Institute (III)

[^14]:    Source: Marsh, 2003 Limits of Liability Report

[^15]:    Source: Young L., Nestle M., Journal of the American Dietetic Association, February 2003

