

Burgeoning health care costs and lost work time make obesity expensive for society. Can policies help curb people's appetites for cheap, calorie-dense foods and encourage more physical activity?

# The Economics of Obesity: Costs, Causes, and Controls

BY CLARE ULRICH

The box-office hit *Super Size Me* vividly brought the dangers of fast food and inactivity to the mass media. Most people these days know that diets high in trans fats, sugar, and salt combined with lack of exercise are stepping stones to obesity. Yet 400,000 people die each year in the United States of poor diet and inactivity, an increase of 33 percent since 1990. If the trend persists, obesity will soon replace smoking as the number one cause of preventable death in this country.

Why aren't we getting it?

"Simply telling people to behave differently may not be very effective; you need to alter the trade-offs people face to create incentives for

them to do what you want them to do," John Cawley, associate professor in Human Ecology's Department of Policy Analysis and Management, told listeners during a presentation titled "Economics of Obesity" given at Cornell's Ecology of Obesity conference held June 6 and 7, 2005.

By "trade-offs" Cawley means the kinds of things people gain and give up when they make decisions. "If resources were limitless," he explains, "if we had endless amounts of money and all the time in the world, we could eat anything and everything we wanted and still maintain our ideal weight. But we're constrained by our money; we can't afford everything. We're constrained by time; there are only 24 hours in a day. And we're also constrained by biology; the foods that give us short-term pleasure—like high-sugar, high-fat foods—unfortunately have this long-run impact of raising our weight. When resources are scarce, people have to make trade-offs."

Studying the trade-offs people make sheds light on how economic forces contribute to weight gain. A look at economics is also useful for determining to what extent obesity is a personal issue and to what extent it involves society, Cawley adds. An economic framework can provide justification for whether something should be done about an obesity-related problem—whether the government should be involved, for instance—and what could actually be done to intervene to affect the kinds of decisions people make.

There's no shortage of data quantifying how obesity is very much a public problem, Cawley pointed out. The Surgeon General recently reported that 27 percent of Americans are obese and 61 percent are overweight. About 13 percent of children and adolescents are also seriously overweight, 70 percent of whom are likely to become overweight adults. > > >

## FACT

### Did You Know?

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Foods that are energy dense—oil, margarine, and sugars—are very cheap per calorie to buy. Healthy foods such as fresh fruits and vegetables and lean meats increase a food budget by 5,000 percent per calorie. These are enormous differences in costs.



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While premature death is one consequence of obesity, the condition is more frequently linked to disease than mortality and requires long-term health management. Complications such as diabetes, arthritis, heart disease, stroke, certain cancers, and depression increase health-care costs for obese people by 36 percent and medication costs by 77 percent. Total health-care costs for obesity-related problems were tabulated at \$75 billion in 2003. Since approximately one-half of these costs are financed by Medicare and Medicaid, U.S. taxpayers' pocketbooks are directly pinched, Cawley noted. Higher insurance premiums add another wallop. In addition, as a result of compromised health, obese people suffer indirect costs such as lost work time and wages, lower productivity, and early retirement to the national tune of about \$50 billion a year. Their employers lose, too.

Fueling the increase in obesity is the average cost of food, which has fallen 15 percent between 1978 and 2000. Supply and demand dictates that when goods get cheaper, people tend to buy more of them. This appears to have happened with food.

But all foods are not priced equally. Cawley cited a study conducted by Adam Drewnowski, professor of epidemiology at the University of Washington, who recorded the cost of food per calorie and the density of calories in various food items. Drewnowski found that foods that are energy dense—oil, margarine, and sugars—are very cheap per calorie to buy and that buying healthy foods such as fresh fruits and vegetables and lean meats increased a food budget by 5,000 percent per calorie. These are enormous differences in costs, which often force consumers—especially people of marginal socioeconomic status—to choose between money and health, Cawley said.

Likewise, sedentary recreation has become more attractive over this same time period. Inas Rashad, an assistant professor of economics at Georgia State University, who also spoke in the presentation, noted that while 2 percent of households in the United States owned television sets in 1950, 98 percent own them now. Far greater options in television programming and the advent of videos and DVDs have also encouraged people to stay at home and watch TV or movies.

While societal changes such as lower food prices and more TV programs may be contributing to the rise of obesity in the United States, policy interventions that alter the relative costs and benefits of certain foods or activities hold promise for offsetting the trend. But, Cawley said, policy interventions are only justified in cases of market failure, or situations in which goods and services do not serve the public interest. By this definition, obesity does not constitute a market failure—nor do lower food prices or increased TV options. Information, or lack of it, may point to a market failure if it confounds the consumer's decision-making, and government could play an important role in correcting it.

For example, before the Nutrition Labeling and Education Act of 1990, consumers had no way of finding out the nutritional content of most foods. Now the government requires that most packaged foods display nutrition labels, and some policymakers are recommending similar labeling for restaurants. The Federal Trade Commission has also filed 80 cases in the past 10 years against the weight-loss industry for making "false, misleading, and exaggerated claims" that put people at risk.

Another possible justification for enacting policy is to protect consumers who may not be able to act in their own self-interest, such as children. "An abundance of precedents exists for treating children differently than adults on the basis of their inability to make responsible decisions," Cawley said. "Cigarette and alcohol sales to minors are banned. Those under age 16 may not drive, while those under age 18 may not vote."

Should similar restrictions be placed on children's decisions to eat unhealthy foods or watch TV at the expense of exercising? Cawley warned that while the overt intention of such policies is protection, too much government control could infringe on civil rights or cloak less-than-altruistic motives.

"Throughout American history, there have been calls to regulate what is ostensibly private behavior, even without any evidence of market failure," he explained. "Moreover, some of the proposals to encourage obese people to restrict their diets, exercise more, or achieve healthy weight may partly be influenced by puritanical disgust for sloth and gluttony."

Patricia Anderson, a professor of economics at Dartmouth College, has been studying changes that have occurred in the home and school environments since the 1970s that may have contributed to the tripling of child obesity rates.

Anderson found evidence that children of mothers who work full-time are more likely to be overweight, especially those in the upper quartile of income. Between 1975 and 1994, the average hours worked per week for top-income women increased from about 20 to 27 hours as the obesity rate for children of these women increased from 2 to nearly 10 percent. Changes in mothers' behavior with regard to nutrition (such as more reliance on calorie-dense convenience foods) and physical activity (such as being unable to supervise vigorous outside play) are possible mechanisms contributing to children's obesity. However, Anderson explained, since her data explain only a third of the increase in child obesity, other factors clearly exist.

In addition to the home, the other place children spend the bulk of their time is school. Anderson found that almost half of all high school students have no physical education classes, and almost all of them have access to vending machines and are served brand-name fast foods in school. To make matters worse, Anderson pointed out, over the last decade, cash-strapped schools have accepted contracts with soda and vending-machine companies in order to increase their budgets, in some cases by as much as \$11.1 million over 10 years. In exchange for payment, 73 percent of high schools agree to sell one brand of soda, while 46 percent allow vendors to advertise at the school or at school activities. Additionally, 64 percent of high schools receive a percentage of sales, with 39 percent collecting an additional payment for reaching sales targets. While Anderson's research revealed that students in schools where junk foods are available have nearly a 1 percent higher average body mass index (BMI), that effect more than doubles in children with an overweight parent. She recommended further research.

"It's an economic reality of the marketplace that most kids are going to live in a family without a stay-at-home parent," Anderson said. "Given that this is true, and given that it appears that there's some effect on children's health through obesity, what can we do about that?"

Policies that encourage a parent to stay at home are unlikely, she pointed out, implying that school-based interventions may be more effective. Anderson said that we need a better understanding of how school finance policies affect school physical education and food and beverage decisions, and how these choices affect children's health. Legislators are listening and have begun to restrict deals between junk-food and soft-drink vendors and schools.

"Many of the same fast-food companies that advertise on TV are also giving a lot of money to public schools," Rashad added. Her research explored the causal relationship between children's

exposure to television advertising by fast-food restaurants and obesity. It is based on the premise that consumers derive more utility (happiness) from consuming a well-advertised product.

Measuring the number of hours of television fast-food restaurant advertising messages children saw per week, Rashad found that exposure to fast-food advertising has a positive and significant effect on children's and adolescents' overweight status, except for female adolescents. She calculated that a complete ban on advertising would have the impact of reducing the percentage of overweight teenage boys by 20 to 31 percent, 12 to 29 percent for male children (ages 3–11), 4 to 15 percent for female children, and 1 to 5 percent for teenage girls.

Rashad recommended disallowing food advertising as a tax-deductible business expense. Since the corporate income tax rate is 35 percent, she calculated that elimination of tax deductibility would increase the price of advertising by about 54 percent and reduce fast-food restaurant messages seen on TV by about 48 percent for children and 25 percent for adolescents. The policy could potentially reduce the number of overweight children by 4 to 5 percent and overweight adolescents by 3 to 6 percent. Rashad is convinced that "there is more rationale for government intervention with regard to children and adolescents than there is for adults."

Because economic and social environments change much more quickly than human biology, they have driven many of the recent changes in obesity patterns. But their inherent instability offers hope.

"Industry produces and sells the goods or services that yield the highest profit," Cawley explained. "But this is not a bad thing for society, as industry's desire to earn profit leads it to sell exactly the items that satisfy consumers' desires. The fact that American industry sells a lot of high-fat foods and not very many abdominal exercise machines is not evidence that industry is evil and is attempting to fatten American people, but is a reflection of consumer sentiment that high-fat foods are tasty and exercising can be a chore." On the other hand, Cawley recalled diet soda and Olestra as examples where the food industry has sought ways to increase profit by decreasing the impact of their products on body weight, and the pharmaceutical industry is currently developing drugs to help alleviate obesity, a market that is expected to grow to \$1.3 billion by the year 2010. The profit incentive built into the U.S. economy can work in tandem with Americans to help them get leaner—if consumers are clear about what they want and make their demands known.



## more information?

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