

Skinny or Fat: Why Your Money Matters in the Obesity Epidemic

Sandra Hwang

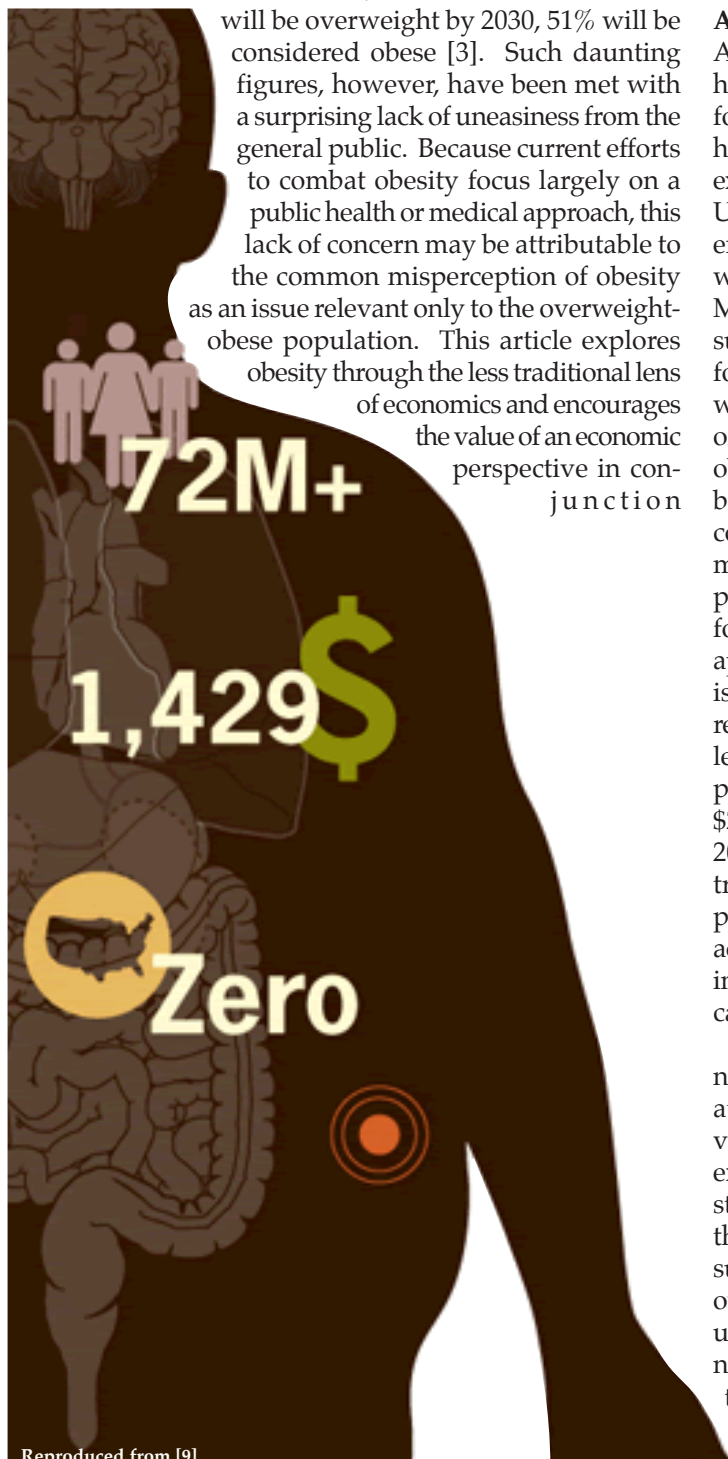
In October 2010, obesity passed smoking as the most preventable cause of morbidity and mortality in the United States [1]. According to Centers for Disease Control and Prevention, 68% of adult Americans were overweight or obese in 2008 [2]. A recent projection by Wang et al. estimates that of the 86% of American adults who will be overweight by 2030, 51% will be considered obese [3]. Such daunting figures, however, have been met with a surprising lack of uneasiness from the general public. Because current efforts to combat obesity focus largely on a public health or medical approach, this lack of concern may be attributable to the common misperception of obesity as an issue relevant only to the overweight-obese population. This article explores obesity through the less traditional lens of economics and encourages the value of an economic perspective in conjunction

with the customary health approach. The relevance of money in combating the issue will be discussed on two fronts: (1) the importance of economics in realizing the impact of obesity on all Americans and (2) the potential efficacy of economic incentives to motivate weight loss in the overweight-obese.

An Economic Lens

A basic understanding of the economics behind this public health priority is essential to recognizing obesity as a concern for all Americans, regardless of personal body weight. "It's hard to find conditions that aren't worsened or made more expensive by obesity," says John Cawley, professor at Cornell University [4]. Consider an example in which a healthy employee shares an employer-based health insurance pool with 70 other colleagues, including an obese woman named Ms. X. Last week, Ms. X underwent coronary artery bypass surgery for her cardiovascular disease. Keep in mind the following: in 2003, medical costs for the overweight-obese were estimated to be \$1,500 greater per year than for those of normal weight individuals, and in 2001, health costs of obesity-linked cardiovascular disease accumulated to \$8.8 billion, independent of stroke [5, 6]. The employee and his colleagues will absorb Mrs. X's numerous obesity-related medical expenses through increased health insurance premiums. Furthermore, Ms. X will be absent from work for eight weeks to recover from her surgery. Recall that approximately two-thirds of the adult American population is overweight and subject to similar health issues [1]. As a result, companies experience higher absenteeism rates, which lead to reduced productivity. In fact, it is estimated that the price of obesity at a company with 1,000 employees is about \$285,000 a year in medical costs and absenteeism [7]. For 2001, an estimated cost of \$3.9 billion in lost productivity translated into 39.3 million lost work days, 62.7 million physician office visits, and 239 million days of restricted activity [6]. Now consider obesity's impact on a global scale; in an international economy, a large unhealthy population can severely weaken its competitiveness.

Even still, the impact of these financial implications is not limited to the insured population. Conditions associated with obesity significantly increase the frequency of visits to the emergency room. These emergency medical expenses for the uninsured are absorbed by the federal and state government and thus paid for by American taxpayers through increased taxes. Knowingly or not, Americans are subsidizing the medical costs of obesity regardless of their own weight. In the process of attaining a more accurate understanding of the breadth of obesity's impact, an economic perspective on obesity conveniently touches upon the power of loss aversion, or the strong human preference



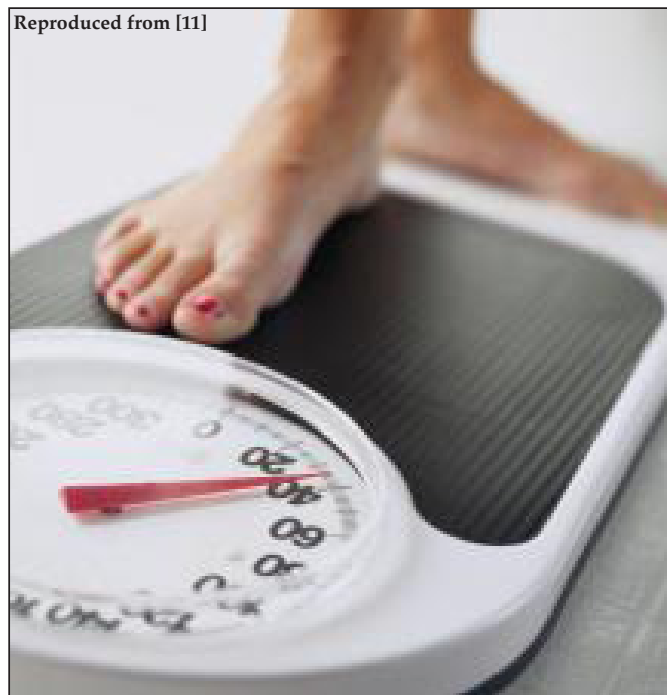
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to avoid loss over securing gains.

Potential Efficacy of Financial Incentives

Consider a simple trajectory of logic – if financial loss from personal pockets can push Americans to realize the urgency at hand, perhaps money can be used as an equally effective motivating factor in engaging individual behavioral changes. This is precisely the study conducted by Volpp et al. in 2008 at the University of Pennsylvania, which suggests that financial incentives may indeed be effective in motivating weight loss in the obese. In this randomized control trial, 57 obese but otherwise healthy participants between the ages of 30 and 70 were randomly assigned to three weight loss plans for a duration of 16 weeks [8]. The control plan consisted of monthly weigh-ins without financial incentive. Subjects assigned to the second plan, a deposit contract, were given the opportunity to contribute on a daily basis any value between \$0.01 and \$3 [8]. The money was refundable alongside an additional award at the end of each month if the weight loss goal was met or exceeded; participants thus had the opportunity to earn between \$0 and \$252 per month based on the amount invested and weight lost. Subjects assigned to the third variation, a lottery incentive, were rewarded with frequent small payoffs and less frequent large payoffs via a lottery system when adhering to the track of their weight loss goals [8].

Results of this study demonstrate that participants motivated by the prospect of earning or saving money were 7.7 to 9.4 times more likely to meet their target goals than were participants in the control group, who lacked these incentives [8]. Rates of attrition, or drop-out, were “much lower than typical in weight loss studies,” suggesting that the approach provided a means of achieving statistically significant weight loss in an engaging and rewarding manner. These results were also reached without coupling the



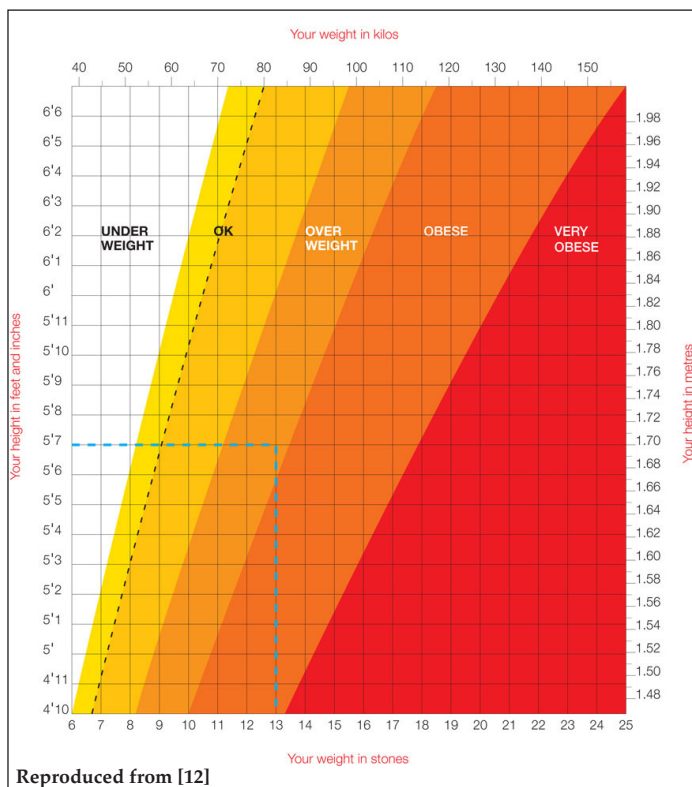
“**Knowingly or not, Americans are subsidizing the medical costs of obesity regardless of their own weight**”

incentive plans with a traditional, expensive weight loss program (e.g. frequent counseling, distribution of standard prepared meals, intensive exercise training). Furthermore, weight loss in the incentive groups yielded immediate improvements in blood pressure, glycemic control, and serum lipid levels; combined with a mean weight loss of 12.2 lbs, these improvements are associated with a 58% reduction in diabetes incidence [8].

If truly efficacious, a financial approach to obesity could have enormous implications for America’s health and economic affairs. Firstly, obese Americans could have the opportunity to improve their health and lower frequency of medical needs. Generally speaking, their co-workers could experience fewer increases in health insurance premiums, companies could maintain their productivity and competitiveness in the market, and American taxpayers could pay lower taxes as attributed to obesity. Current interventions, e.g., pills and surgeries, are highly expensive and have caused a significant shift in health care spending. Initial investment of funding in providing incentives in weight loss plans, however, could facilitate a shift in resource allocation back towards health maintenance and disease prevention measures. Many large corporations are currently experimenting with the use of employee insurance benefit packages as strategies to encourage healthy lifestyles. These programs, however, are traditionally participation-based, rewarding employees for attending educational classes and walking programs, for example. Policy implications of a validated economic approach include encouraging employer use of outcome-based financial incentives.



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In evaluating potential implications of these results, it is crucial to remember that this study represents only preliminary evidence in effectively promoting short-term weight loss. Its limitations, which include lack of replication, a small sample size, and a short experimental duration, cannot be overlooked. Skepticism of the actual efficacy of tackling a public health issue from a financial standpoint remains as well. In response to a similar study conducted in the United Kingdom which reached a similar conclusion, a spokesperson for the UK Department of Health stated, “the Coalition Government has committed to protecting health spending, but every penny must be spent more effectively. We do not believe giving people financial or paid-for incentives is a desirable use of [National Health Services] money” [9].

Additional concerns surround the ethics of using financial incentives to promote healthy behavior. Our society accepts a welfare system in which it is assumed that people in poverty are not in their condition by choice; societal assistance is thus considered justified. Whether Americans are willing to support the use of funding to facilitate decision-making in a population that is typically characterized as “lazy” and “irresponsible” is uncertain. Additionally, there is concern that such a system constitutes research coercion, the use of incentives to lure individuals into taking on a behavior

desired by the researcher. This uneasiness increases when programs become targeted towards certain populations (e.g. low-socioeconomic status).

The authors of the study assert that “identifying effective obesity treatment is both a clinical challenge and a public health priority” [7]. Further studies are needed to investigate long-term efficacy, cost-effectiveness, and potential targeted populations, which may inevitably raise important discussions about ethical concerns. At the same time and in the absence of a means of reversing the spread of obesity, Americans can no longer continue to perceive obesity as a concern that affects only the defined subgroup. An economic perspective on obesity is highly valuable to recognizing the severity and pervasiveness of this public health priority for all Americans, and may be the first step to realizing the urgency with which this issue must be addressed. As society fluctuates among a wide spectrum of reactions to the efficacy and morality of different approaches to reducing obesity, one thing remains certain. As Americans, we are not just running out of money; we are running out of time. ■

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