

Health Promotion Economics

The Economics of Obesity: Improved Health Profiles Among Obese Patients May Spur Higher Health Care Costs



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Critics of the anti-obesity campaign should consider the financial ramifications of an increasingly obese population.

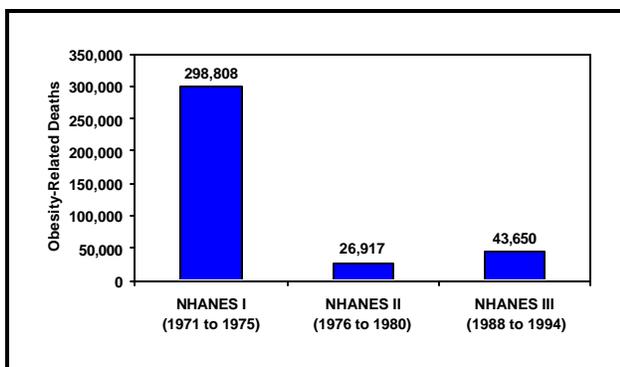
Recent evidence suggests that obesity-related mortality rates may have decreased over the past few decades, despite the dramatically increased prevalence of obesity (Flegal et al., 2005). Some critics of the anti-obesity campaign, including the Center for Consumer Freedom, have cited such findings as proof that the threat of obesity to public health has been overstated. But mortality is not the only measure of obesity's negative impact on society. The causal relationships among obesity, morbidity, and increased medical costs are well documented and, given ever-rising U.S. health care costs, should not be ignored. Increased survivability is good news, but medical innovations that mitigate the consequences of obesity are expensive: improved medical technology and increased treatment, while reducing the health effects of obesity, may increase obesity-related health care costs.

Epidemiologic research has demonstrated a clear link between obesity—defined as a body mass index (BMI)¹ greater than or equal to 30—and a number of serious medical conditions, including type 2 diabetes, cardiovascular disease (CVD), sleep apnea, gallbladder disease, and several types of cancer. The recent analysis by Flegal et al. (2005), however, suggests that the risk of mortality associated with obesity may be lower than previously reported. Earlier studies, which relied primarily on mortality data from the first National Health and Nutrition Examination Survey (NHANES I), estimated more than 300,000 annual obesity-related deaths (Allison et al., 1999; Mokdad et al., 2004). In comparison, Flegal et al., who pooled mortality data from three unique cohorts spanning 1971 to 1975 (NHANES I), 1976 to 1980 (NHANES II), and 1988 to 1994 (NHANES III), estimated approximately 112,000 annual obesity-related deaths. Examined independently, the risk of

¹Although an imperfect measure of excess body fat, BMI (estimated as weight in kilograms divided by height in meters squared) is typically used to stratify large populations into obesity categories, largely because of the ease with which it can be measured. Athletes who have an unusually large ratio of lean muscle mass to body fat and elderly adults who have an unusually low ratio of lean muscle mass to body fat may be misclassified; for most individuals, however, BMI provides a reasonably accurate gauge of body composition.

mortality associated with obesity from NHANES I, NHANES II, and NHANES III may reveal an important trend: it appears that the link between obesity and mortality has weakened over the past 30 years. Figure 1 presents estimates of obesity-related deaths based on the prevalence of obesity in 2000 and relative risks from NHANES I, NHANES II, and NHANES III.

Figure 1. Obesity-Related Deaths Based on the Prevalence of Obesity in 2000 and Discrete Mortality Rates from NHANES I, NHANES II, and NHANES III



Source: Flegal et al. (2005).

When risk estimates from either NHANES II or NHANES III are substituted for analogous estimates from NHANES I, annual obesity-related deaths plummet from nearly 300,000 to fewer than 50,000. These results, although inconclusive, imply that obesity-related mortality rates have decreased while obesity rates have increased. Flegal et al.'s lower estimate of obesity-related deaths has thus fueled speculation that the obesity epidemic has been overhyped.

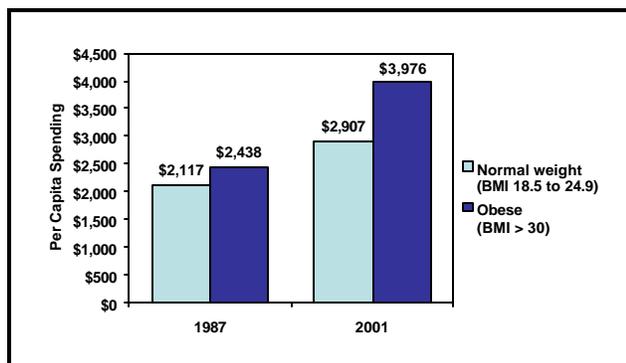
Yet research that focuses on the economic consequences of obesity tells a more complex story: the excess medical costs that stem from obesity are substantial. Using the Medical Expenditures Panel Survey (MEPS), Finkelstein, Fiebelkorn, and Wang (2003) estimated obesity-related health care costs at more than 5% of annual U.S. health care spending. Applied to a National Health

Accounts estimate of 2004 personal health care expenditures (\$1,736 billion), this percentage equates to approximately \$92 billion. This burden is shouldered by both the public and private sectors. Taxpayers fund roughly half the bill for obesity-related medical conditions through government-sponsored insurance programs (such as Medicaid and Medicare); employers, saddled with higher health insurance premiums, struggle to provide an increasingly obese workforce with affordable health care coverage. For example, Finkelstein, Fiebelkorn, and Wang (2005) estimated obesity-related health care costs at a 1,000-employee firm to be nearly \$220,000 per year. Taken together, these findings confirm the considerable shared financial impact that obesity has on the U.S. health care system.

Moreover, in contrast to seemingly lowered obesity-related mortality rates, the financial impact of obesity has ballooned in recent years. The number of obese individuals has increased appreciably, as have the per capita treatment costs that result from being obese. Thorpe et al. (2004) used the 1987 National Medical Expenditures Survey (NMES) and the 2001 MEPS to investigate the link between obesity and rising health care costs. Figure 2 presents per capita health care spending (in 2001 dollars) for normal-weight and obese adults in 1987 and 2001.

In 1987, per capita spending for obese adults was 15% higher than that for normal-weight adults. By 2001, per capita spending for obese adults was 37% higher than that for normal-weight adults. As a consequence of both an increasingly obese population and higher obesity-related treatment costs, America's growing waistline accounted for roughly 27% of the rise in inflation-adjusted per capita spending. Given the ongoing battle to decelerate the overall growth of U.S. health care costs, this surge in obesity-related spending provides ample cause for concern.

Figure 2. Per Capita Health Care Spending (in 2001 dollars) for Normal-Weight and Obese Adults (Age > 18) in 1987 and 2001

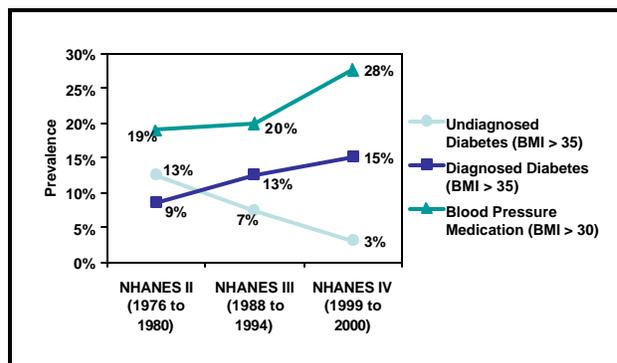


Source: Thorpe et al. (2004).

Rising obesity-related health care costs against a backdrop of shrinking obesity-related mortality rates may appear contradictory at first glance; new evidence, however, provides a plausible explanation for this relationship. Gregg et al. (2005) used NHANES data to examine 40-year trends in the prevalence, diagnosis, and treatment of CVD risk factors. Their results support an unexpected conclusion: that the present-day obese population has a better CVD risk factor profile than their leaner counterparts had 20 to 30 years ago. A closer examination of the data reveals a shift in medical utilization that connects the dots between increased survivability and increased health care costs: greater monitoring and a multitude of new prescription medications have markedly improved the health profiles of obese patients. Figure 3 presents, for example, the prevalence of undiagnosed diabetes, diagnosed diabetes, and blood pressure medication use from three waves of NHANES.

Among individuals aged 20 to 74 years with a BMI greater than or equal to 35, the prevalence of undiagnosed diabetes decreased from 13% to 3%, whereas the prevalence of diagnosed diabetes increased from 9% to 15%. The prevalence of individuals with a BMI greater than or equal

Figure 3. Prevalence of Undiagnosed Diabetes, Diagnosed Diabetes, and Blood Pressure Medication Use Among Obese Adults



Source: Gregg et al. (2004, 2005).

to 30 who reported using blood pressure medication increased from 19% to 28%. Physicians have become more aware of the adverse health outcomes associated with obesity and, armed with better treatment options, are better able to moderate its life-threatening consequences. As a result, the harmful effects of obesity on life expectancy decrease, and obesity-related health care costs increase.

Critics of the anti-obesity campaign should consider the financial ramifications of an increasingly obese population. The health care industry has made significant progress in ameliorating the adverse health outcomes associated with obesity, but this progress has not had the same effect on the economic burden. Medical innovations that reduce the consequences of being obese may, in fact, spur higher obesity-related health care costs. In contrast, approaches to obesity treatment that lower obesity rates have the potential to reduce both adverse health outcomes and health care costs. More research is needed to identify and develop cost-effective programs that either prevent obesity or promote weight loss. Obesity currently contributes approximately \$92 billion to the annual U.S. health care bill. If nothing is done to curb obesity rates, obesity-related costs will likely continue to escalate, posing a considerable

obstacle to the maintenance of affordable health care coverage.

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