



# THE NEWREPUBLIC ONLINE

## WHAT THE DIET INDUSTRY WON'T TELL YOU.

### Weighting Game

by Paul Campos

Post date: 01.02.03  
Issue date: 01.13.03

Perhaps America's most common New Year's resolution is to lose weight. This week, as we push ourselves away from the increasingly guilty pleasures of the holiday table, we will be bombarded with ads imploring us to slim down with the help of health club memberships, exercise equipment, or the latest miracle diet. Yet, however common it may be, the resolution to lose weight appears to be a particularly ineffective one: The latest figures indicate that 65 percent of the adult population--more than 135 million Americans--is either "overweight" or "obese." And government officials are increasingly eager to declare America's burgeoning waistline the nation's number-one public health problem. The Surgeon General's recent *Call to Action to Prevent and Decrease Overweight and Obesity* labels being fat an "epidemic" that kills upward of 300,000 Americans per year.

Such declarations lend our obsession with being thin a respectable medical justification. But are they accurate? A careful survey of medical literature reveals that the conventional wisdom about the health risks of fat is a grotesque distortion of a far more complicated story. Indeed, subject to exceptions for the most extreme cases, it's not at all clear that being overweight is an independent health risk of any kind, let alone something that kills hundreds of thousands of Americans every year. While having a sedentary lifestyle or a lousy diet--both factors, of course, that can contribute to being overweight--do pose health risks, there's virtually no evidence that being fat, in and of itself, is at all bad for you. In other words, while lifestyle is a good predictor of health, weight isn't: A moderately active fat person is likely to be far healthier than someone who is svelte but sedentary. What's worse, Americans' (largely unsuccessful) efforts to make themselves thin through dieting and supplements are themselves a major cause of the ill health associated with being overweight--meaning that America's war on fat is actually helping cause the very disease it is supposed to cure.

**T**he most common way researchers determine whether someone is overweight is by using the "body mass index" (BMI), a simple and rather arbitrary mathematical

formula that puts people of varying heights and weights on a single integrated scale. According to the government, you're "overweight" (that is, your weight becomes a significant health risk) if you have a BMI figure of 25 and "obese" (your weight becomes a major health risk) if your BMI is 30 or higher. A five-foot-four-inch woman is thus labeled "overweight" and "obese" at weights of 146 pounds and 175 pounds, respectively; a five-foot-ten-inch man crosses those thresholds at weights of 174 pounds and 210 pounds. Such claims have been given enormous publicity by, among other government officials, former Surgeons General C. Everett Koop--whose Shape Up America foundation has been a leading source for the claim that fat kills 300,000 Americans per year--and David Satcher, who in 1998 declared that America's young people are "seriously at risk of starting out obese and dooming themselves to the difficult task of overcoming a tough illness." And the federal government is beginning to put its money where its mouth is: Last April, the Internal Revenue Service announced that diet-related costs could henceforth be deducted as medical expenses, as long as such expenses were incurred in the course of treating the "disease" of being fat--a ruling that will create a multibillion dollar per year public subsidy for the weight-loss industry.

Yet, despite the intense campaign to place fat in the same category of public health hazards as smoking and drug abuse, there is in fact no medical basis for the government's BMI recommendations or the public health policies based on them. The most obvious flaw lies with the BMI itself, which is simply based on height and weight. The arbitrariness of these charts becomes clear as soon as one starts applying them to actual human beings. As *The Wall Street Journal* pointed out last July, taking the BMI charts seriously requires concluding that Brad Pitt, George Clooney, and Michael Jordan are all "overweight," and that Sylvester Stallone and baseball star Sammy Sosa are "obese." According to my calculations, fully three-quarters of National Football League running backs--speedy, chiseled athletes, all of whom, it's safe to say, could beat the world's fastest obesity researcher by a wide margin in a 100-yard dash--are "obese."

To be sure, even if the BMI categories can be spectacularly wrong in cases such as those involving professional athletes, they're often a pretty good indicator of how "fat" most people are in everyday life. The real question is whether being fat--as determined by the BMI or by any other measure--is actually a health risk. To answer this question, it's necessary to examine the epidemiological evidence. Since the measurable factors that affect whether someone contracts any particular disease or condition can easily number in the hundreds or thousands, it's often difficult to distinguish meaningful data from random statistical noise. And, even where there are clear correlations, establishing cause and effect can be a complicated matter. If researchers observe that fat people are more prone to contract, say, heart disease than thin people, this fact by itself doesn't tell them whether being fat contributes to acquiring heart disease. It could easily be the case that some other factor or set of factors--i.e., being sedentary or eating junk food or dieting aggressively--contributes both to being fat and to contracting heart disease.

Unfortunately, in the world of obesity research these sorts of theoretical and practical complications are often dealt with by simply ignoring them. The most cited studies purporting to demonstrate that fat is a major health risk almost invariably make little or no attempt to control for what medical researchers refer to as "confounding

variables." For example, the research providing the basis for the claim that fat contributes to the deaths of 300,000 Americans per year--a 1999 study published in the *Journal of the American Medical Association* (JAMA)--did not attempt to control for any confounding variables other than age, gender, and smoking.

And, even among studies--such as the JAMA one--that ignore variables such as diet or activity levels, there is tremendous disagreement: For every study that indicates some sort of increased health risk for people with BMI figures between 25 and 30 (a category that currently includes more than one out of every three adult Americans), another study indicates such people enjoy *lower* overall health risks than those whom the government and the medical establishment have labeled "ideal-weight" individuals (i.e., people with BMI figures between 18.5 and 24.9). Perhaps the most comprehensive survey of the literature regarding the health risks of different weight levels is a 1996 study by scientists at the National Center for Health Statistics and Cornell University. This survey analyzed data from dozens of previous studies involving more than 600,000 subjects. It concluded that, for nonsmoking men, the lowest mortality rate was found among those with BMI figures between 23 and 29, meaning that a large majority of the healthiest men in the survey would be considered "overweight" by current government standards. For nonsmoking women, the results were even more striking: The authors concluded that, for such women, the BMI range correlating with the lowest mortality rate is extremely broad, from about 18 to 32, meaning that a woman of average height can weigh anywhere within an 80-pound range without seeing any statistically meaningful change in her risk of premature death.

What accounts for the conflict between studies that claim being "overweight" is a significant health risk and those that suggest such weight levels might actually be optimal? The biggest factor is that researchers fail to point out that, in practical terms, the differences in risk they are measuring are usually so small as to be trivial. For example, suppose that Group A consists of 2,500 subjects and that over the course of a decade five of these people die from heart attacks. Now suppose that Group B consists of 4,000 subjects and that five members of this group also die from heart attacks over the same ten-year span. One way of characterizing these figures is to say that people in Group A are subject to a (implicitly terrifying) 60 percent greater risk of a fatal heart attack than those in Group B. But the practical reality is that the relevant risk for members of both groups is miniscule. Indeed, upon closer examination, almost all studies that claim "overweight" people run significantly increased health risks involve this sort of interpretation (or, less generously, distortion) of their data.

This phenomenon is in part a product of the fact that studies that purport to find significant elevations of mortality risk associated with different weight levels usually focus on mortality rates among relatively young adults. Since these studies typically involve very small numbers of deaths among very large numbers of subjects, it isn't surprising to see what appear to be large oscillations in relative risk across different studies. Indeed, one often observes large, apparently random oscillations in risk even *within* studies. Lost in the uproar over the JAMA study's 300,000 deaths figure is the peculiar fact that the report actually found that supposedly "ideal-weight" individuals with a BMI of 20 had essentially the same mortality risk as "obese" persons with BMI figures of 30 and that both groups had a slightly higher mortality risk than

"overweight" people with BMI figures of 25.

In short, the Cornell survey of the existing literature merely confirmed what anyone who actually examines the data will discover: In a decided majority of studies, groups of people labeled "overweight" by current standards are found to have equal or lower mortality rates than groups of supposedly ideal-weight individuals. University of Virginia professor Glenn Gaesser has estimated that three-quarters of all medical studies on the effects of weight on health between 1945 and 1995 concluded either that "excess" weight had no effect on health or that it was actually beneficial. And again, this remains the case *even before* one begins to take into account complicating factors such as sedentary lifestyle, poor nutrition, dieting and diet drugs, etc. "As of 2002," Gaesser points out in his book *Big Fat Lies*, "there has not been a single study that has truly evaluated the effects of weight alone on health, which means that 'thinner is healthier' is not a fact but an unsubstantiated hypothesis for which there is a wealth of evidence that suggests the reverse."

**A**s we have seen, most of the people the government and the health establishment claim are too fat--those categorized as "overweight" or "mildly obese"--do not in fact suffer from worse health than supposedly "ideal-weight" individuals. It is true that some groups of fat people--generally those with BMI figures well above 30--are less healthy than average, although not nearly to the extent the anti-fat warriors would have you believe. (Large-scale mortality studies indicate that women who are 50 or even 75 pounds "overweight" will on average still have longer life expectancies than those who are 10 to 15 pounds "underweight," a.k.a. fashionably thin.) Yet there is considerable evidence that even substantially obese people are not less healthy because they're fat. Rather, other factors are causing them to be both fat and unhealthy. Chief among these factors are sedentary lifestyle and diet-driven weight fluctuation.

The most comprehensive work regarding the dangers of sedentary lifestyle has been done at the Cooper Institute in Dallas. The institute's director of research, Steven Blair, is probably the world's leading expert on the relationship between activity levels and overall health. For the past 20 years, the Cooper Institute has maintained a database that has tracked the health, weight, and basic fitness levels of tens of thousands of individuals. What Blair and his colleagues have discovered turns the conventional wisdom about the relationship between fat and fitness on its head. Quite simply, when researchers factor in the activity levels of the people being studied, body mass appears to have no relevance to health whatsoever--even among people who are substantially "obese." It turns out that "obese" people who engage in moderate levels of physical activity have radically lower rates of premature death than sedentary people who maintain supposedly "ideal-weight" levels.

For example, a 1999 Cooper Institute study found the highest death rate to be among sedentary men with waist measurements under 34 inches and the lowest death rate to be among physically fit men with waist measurements of 40 inches or more. And these results do not change when the researchers control for body-fat percentage, thus dispensing with the claim that such percentages, rather than body mass itself, are the crucial variables when measuring the health effects of weight. Fat people

might be less healthy if they're fat because of a sedentary lifestyle. But, if they're fat and active, they have nothing to worry about.

Still, even if it's clear that it's better to be fat and active than fat and sedentary--or even thin and sedentary--isn't it the case that being thin and active is the best combination of all? Not according to Blair's research: His numerous studies of the question have found no difference in mortality rates between fit people who are fat and those who are thin.

Of course, in a culture as anti-fat as ours, the whole notion of people who are both fat and fit seems contradictory. Yet the research done by Blair and others indicates that our belief that fatness and fitness are in fundamental tension is based on myths, not science. "Fitness" in Blair's work isn't defined by weight or body-fat percentage but rather by cardiovascular and aerobic endurance, as measured by treadmill stress tests. And he has found that people don't need to be marathon runners to garner the immense health benefits that follow from maintaining good fitness levels. Blair's research shows that to move into the fitness category that offers most of the health benefits of being active, people need merely to engage in some combination of daily activities equivalent to going for a brisk half-hour walk. To move into the top fitness category requires a bit more--the daily equivalent of jogging for perhaps 25 minutes or walking briskly for close to an hour. (Our true public health scandal has nothing to do with fat and everything to do with the fact that 80 percent of the population is so inactive that it doesn't even achieve the former modest fitness standard.)

Other researchers have reached similar conclusions. For instance, the Harvard Alumni Study, which has tracked the health of Harvard graduates for many decades, has found the lowest mortality rates among those graduates who have *gained* the most weight since college while also expending at least 2,000 calories per week in physical activities. Such work suggests strongly that when obesity researchers have described the supposed health risks of fat, what they have actually been doing is using fat as a proxy--and a poor one at that--for a factor that actually does have a significant effect on health and mortality: cardiovascular and metabolic fitness. As Blair himself has put it, Americans have a "misdirected obsession with weight and weight loss. The focus is all wrong. It's fitness that is the key."

**I**f fat is ultimately irrelevant to health, our fear of fat, unfortunately, is not. Americans' obsession with thinness feeds an institution that actually *is* a danger to Americans' health: the diet industry.

Tens of millions of Americans are trying more or less constantly to lose 20 or 30 pounds. (Recent estimates are that, on any particular day, close to half the adult population is on some sort of diet.) Most say they are doing so for their health, often on the advice of their doctors. Yet numerous studies--two dozen in the last 20 years alone--have shown that weight loss of this magnitude (and indeed even of as little as ten pounds) leads to an increased risk of premature death, sometimes by an order of several hundred percent. By contrast, over this same time frame, only a handful of studies have indicated that weight loss leads to lower mortality rates--and one of these found an eleven-hour increase in life expectancy per pound lost (i.e., less than

an extra month of life in return for a 50-pound weight loss). This pattern holds true even when studies take into account "occult wasting," the weight loss that sometimes accompanies a serious but unrelated illness. For example, a major American Cancer Society study published in 1995 concluded in no uncertain terms that healthy "overweight" and "obese" women were better off if they *didn't* lose weight. In this study, healthy women who intentionally lost weight over a period of a year or longer suffered an all-cause increased risk of premature mortality that was up to 70 percent higher than that of healthy women who didn't intentionally lose weight. Meanwhile, unintentional weight gain had no effect on mortality rates. (A 1999 report based on the same data pool found similar results for men.) The only other large study that has examined the health effects of intentional weight loss, the Iowa Women's Health Study, also failed to find an association between weight loss and significantly lower mortality rates. In fact, in this 42,000-person study, "overweight" women had an all-cause mortality rate 5 to 10 percent lower than that of "ideal-weight" women.

One explanation for the ill effects of intentional weight loss is diet drugs (others include the binge eating to which chronic dieters are especially prone). The havoc wrought by drugs such as Redux and fen-phen is well-known and has resulted in billions of dollars' worth of legal liability for their manufacturers. What has been less publicized is that other diet drugs are being discovered to have similarly devastating effects: For example, a recent Yale University study indicates that women between the ages of 18 and 49 who use appetite suppressants containing phenylpropanolamine increase their risk of hemorrhagic stroke by 1,558 percent. (This over-the-counter drug was used by approximately nine million Americans at any given time during the late '90s. The Food and Drug Administration, which is in the process of formally banning the drug, has requested that in the interim manufacturers remove it from the market voluntarily.)

The grim irony lurking behind these statistics is that, as numerous studies have demonstrated, people who lose weight via dieting and diet drugs often end up weighing a good deal *more* than people of similar initial weight who never diet. The explanation for this perverse result can be found in the well-documented "set-point" phenomenon--that is, the body's tendency to fight the threat of starvation by slowing its metabolism in response to a caloric reduction. For example, obesity researcher Paul Ernsberger has done several studies in which rats are placed on very low-calorie diets. Invariably, when the rats are returned to their previous level of caloric intake, they get fat by eating exactly the same number of calories that had merely maintained their weight before they were put on diets. The same is true of human beings. "Put people on crash diets, and they'll gain back more weight than they lost," Ernsberger has said.

The literature on the health effects of dieting and diet drugs suggests that, as Gaesser pointed out, what most studies that find a correlation between higher mortality and higher body mass *really* demonstrate is a correlation between higher mortality and higher rates of dieting and diet-drug use. Under these circumstances, advising fat people to diet for the sake of their health is tantamount to prescribing a drug that causes the disease it's supposed to cure.

**W**hat is it about fat that renders so many otherwise sensible Americans more than a little bit crazy? The war on fat is based on many things: the deeply neurotic relationship so many Americans have developed toward food and their bodies, the identification of thinness with social privilege and of fat with lower-class status, the financial interests of the diet industry, and many other factors as well. Ultimately, the fundamental forces driving our national obsession with fat fall into two broad and interrelated categories: economic interest and psychological motivation.

Obesity research in the United States is almost wholly funded by the weight-loss industry. For all the government's apparent interest in the fat "epidemic," in recent years less than 1 percent of the federal health research budget has gone toward obesity-related research. (For example, in 1995, the National Institutes of Health spent \$87 million on obesity research out of a total budget of \$11.3 billion.) And, while it's virtually impossible to determine just how much the dieting industry spends on such research, it is safe to say that it is many, many times more. Indeed, many of the nation's most prominent obesity researchers have direct financial stakes in companies that produce weight-loss products. (When they are quoted in the media, such researchers routinely fail to disclose their financial interests in the matters on which they are commenting, in part because journalists fail to ask them about potential conflicts.) And the contamination of supposedly disinterested research goes well beyond the effects of such direct financial interests. As Laura Fraser points out in her book *Losing It: False Hopes and Fat Profits in the Diet Industry*, "Diet and pharmaceutical companies influence every step along the way of the scientific process. They pay for the ads that keep obesity journals publishing. They underwrite medical conferences, flying physicians around the country expense-free and paying them large lecture fees to attend."

This situation creates a kind of structural distortion, analogous to that which takes place in the stock market when analysts employed by brokerage houses make recommendations to clients intended to inflate the price of stock issued by companies that in return send their business to the brokerages' investment-banking divisions. In such circumstances, it's easy for all the players to convince themselves of the purity of their motives. "It isn't diabolical," eating-disorders specialist David Garner told Fraser. "Some people are very committed to the belief that weight loss is a national health problem. It's just that, if their livelihood is based in large part on the diet industry, they can't be impartial." Fraser writes that when she asked one obesity researcher, who has criticized dieting as ineffective and psychologically damaging, to comment on the policies of one commercial weight-loss program, he replied, "What can I say? I'm a consultant for them."

What makes this structural distortion particularly insidious is that, just as Americans wanted desperately to believe that the IPO bubble of the '90s would never burst--and were therefore eager to accept whatever the experts at Merrill Lynch and on *The Wall Street Journal's* editorial page had to say about the "New Economy"--they also long to believe that medical experts can solve the problem of their expanding waistlines. The reason for this can be summed up in six words: Americans think being fat is disgusting. That psychological truth creates an enormous incentive to give our disgust a respectable motivation. In other words, being fat must be terrible for one's health, because if it isn't that means our increasing hatred of fat represents a social, psychological, and moral problem rather than a medical one.

The convergence of economic interest and psychological motivation helps ensure that, for example, when former Surgeon General Koop raised more than \$2 million from diet-industry heavyweights Weight Watchers and Jenny Craig for his Shape Up America foundation, he remained largely immune to the charge that he was exploiting a national neurosis for financial gain. After all, "everyone knows" that fat is a major health risk, so why should we find it disturbing to discover such close links between prominent former public health officials and the dietary-pharmaceutical complex?

None of this is to suggest that the war against fat is the product of some sort of conscious conspiracy on the part of those whose interests are served by it. The relationship between economic motives, cultural trends, social psychology, and the many other factors that fuel the war on fat is surely far more complex than that. But it does suggest that the conventional wisdom about fat in the United States is based on factors that have very little to do with a disinterested evaluation of the medical and scientific evidence, and therefore this conventional wisdom needs to be taken for what it is: a pervasive social myth rather than a rational judgment about risk.

So what should we do about fat in the United States? The short answer is: nothing. The longer answer is that we should refocus our attention from people's waistlines to their levels of activity. Americans *have* become far too sedentary. It sometimes seems that much of American life is organized around the principle that people should be able to go through an average day without ever actually using their legs. We *do* eat too much junk that isn't good for us because it's quick and cheap and easier than taking the time and money to prepare food that is both nutritious and satisfies our cravings.

A rational public health policy would emphasize that the keys to good health (at least those that anyone can do anything about--genetic factors remain far more important than anything else) are, in roughly descending order of importance: not to smoke, not to be an alcoholic or drug addict, not to be sedentary, and not to eat a diet packed with junk food. It's true that a more active populace that ate a healthier diet would be somewhat thinner, as would a nation that wasn't dieting obsessively. Even so, there is no reason why there shouldn't be millions of healthy, happy fat people in the United States, as there no doubt would be in a culture that maintained a rational attitude toward the fact that people will always come in all shapes and sizes, whether they live healthy lives or not. In the end, nothing could be easier than to win the war on fat: All we need to do is stop fighting it.

**PAUL CAMPOS** is a professor of law at the University of Colorado-Boulder and author of the forthcoming book *The Last American Diet*.

## RELATED LINKS

### Drug Fix

Michelle Cottle on what you can learn from a little diuretic.

### The Single Guy

Why Al Gore's support for a single-payer health care system isn't so crazy.

### Ill Treatment

Los Angeles needs Washington's help

### Fat Content

to avoid a public health crisis. Too bad  
the Bush administration doesn't care.

Michelle Cottle says give yourself a little  
pat of butter.

Copyright 2003, The New Republic