

# Chapter 1

## Craze or Crisis?

**W**hat does Uncle Al, a rich American attorney, have in common with the women of Mauritania, a barren West African country?

The answer is this: Mauritanian women are getting thin for the very same reason that Uncle Al is getting fat—as a result of a changing economy.

You see, in Mauritania, a girl can possess no greater currency than rolls upon rolls of fat. In this vast nomadic nation, thin women are a sign of poverty. In contrast, voluptuous wives and daughters are visible displays of a man's wealth and power. So in a society where obesity is seen as a conduit to a rich husband, it became traditional for well-intentioned mothers and grandmothers to force-feed their daughters and granddaughters.

In recent years, however, force-feeding is fast disappearing. Why? Well, it's not because of the government's efforts to warn women of the dangers of obesity. These radio blasts were largely ignored in a society where fat is revered.<sup>1</sup> No, it's because years of drought have put the country in crisis. With food increasingly scarce and food prices

escalating rapidly, Mauritani-ans can barely afford to feed themselves—let alone overfeed their daughters.

So what about Uncle Al? He's certainly not in a famine. In fact, his weight has been changing for the opposite reason—he's in a land of feast. In America, for reasons we'll detail in the next two chapters, food prices are falling, not rising, especially for high-fat and high-calorie foods, and the costs, in terms of what Uncle Al would be missing out on, of being physically active continue to increase. As a result, so does Uncle Al's waistline.

So even though Uncle Al and Mauritanian women are on a divergent path, their changing weight is still a by-product of a changing economy. But that's where the comparison ends. Because while big might be beautiful in Mauritania, in America, "thin" is the revered cultural norm for most, especially Caucasians. So while the Mauritani-ans struggle to feed their families, here, for at least the past 20 years, books on how to lose weight—whether by dieting, exercising, or by using some magical machine or dietary supplement—have often topped best-seller lists. In fact, the *New York Times* began separating them (along with other self-help books) into a separate category from other nonfiction (though for many of these books, the fiction aisle may be a more appropriate location).

## So Why Now?

Why, after decades of obsession with dieting and weight loss, has the obesity "crisis" become the subject of countless news articles, TV reports, and magazine covers? And, more to the point, why has what was once assumed to be a personal problem—whether of medical, genetic, or behavioral origin—suddenly become an issue for private foundations; school boards; lawmakers; and federal, state, and local government agencies (including child protective services in the case of at least one extremely overweight child)?

Is it simply the latest media craze? Is it griping from the many thousands of businesses who are upset about rising health care costs or their inability to compete in the global economy? Or is it hype from the many purveyors of weight-loss products and services whose profits escalate with each additional news story? We know Uncle Al has been

gaining weight at a steady pace for decades, but is obesity really on the rise for the rest of the population?

Moreover, why should Dad care even if obesity is on the rise? Why should you? Are there broader implications for the economy, for policy makers, and for all Americans? If so, what should be done about it? Before we begin taking a hard look at these issues, let's take a step back and take a brief look at obesity trends across the nation—and the world.

## **My Soccer Team Eats Oranges**

I have to admit that few things bother me more than seeing overweight kids. So when it comes to my own kids, as my wife repeatedly tells me, I'm a pain in the ass. I'm obsessed with what my five-year-old daughter and seven-year-old son eat. (My infant daughter is still strictly under her mother's domain, but she won't be for long.) The occasional treat is fine, but you will almost never find soda in our fridge, and there are strict limits on the few sugary snacks in our pantry. I can probably count our trips to fast-food venues (that I know of) on one hand. And if this isn't enough, I also make sure that my children get plenty of exercise. As most parents will tell you, this is no easy task these days. It's also a constant source of friction between my wife and me, as she is the one left to implement these draconian policies while I am at work or off writing this book.

And it's not just my own family who finds me so irritating. I coach my son's soccer team (largely because he wouldn't play if I did not). Although many teams drink Gatorade and eat Popsicles after practice and games, I limit our team's consumption to water and oranges. This, too, is a real challenge, as I have to constantly remind parents not to bring "rewards" for the team after practice and games. I once had to tell a mom to put the powdered donuts and Juicy Juice® back into her car. I told her what I tell the rest of the parents over and over—water turns out to be a pretty good way to hydrate your kids. Looking at what transpires on some of the other fields, I would not be surprised if many kids actually gain weight as a result of being in the league. By the way, although we are not supposed to keep score, it did not go unnoticed

(by me) that our team of six year olds went undefeated; the lack of Gatorade was not an obstacle to the team's on-field success. Of course, maybe it was my great coaching. . . .

I make no excuses for my sometimes off-putting behavior—I'm a killjoy for a reason. As an obesity researcher, I see statistics on a daily basis that paint an increasingly depressing picture for our children's future—a picture that, as a father and as a coach, I would like to change.

So what kind of picture are we talking about? Currently, about 17 percent of U.S. children are overweight, and many more are at-risk of becoming overweight based on the government's definition of excess weight among youth.<sup>2</sup> *Overweight* is the government's polite term for obese kids, and *at-risk* is their terminology for overweight kids.

As an aside, if you find these terms misleading, you are not alone. Recently, an expert panel made up of members of the American Medical Association and the Centers for Disease Control and Prevention (CDC) met to discuss a change in terminology. They claimed that these terms did not adequately represent the weight problem facing America's youth.<sup>3</sup> I'm sure my dad would agree.

Regardless of terminology, even more alarming than the high prevalence is the rate at which excess weight is rising among America's youth. Government data reveals that the rate of overweight 6 to 11 year olds tripled from 4 percent to almost 19 percent during the past 30 years. The rate for 12 to 19 year olds mirrored that jump, with an increase in prevalence from 6 percent to over 17 percent.<sup>4</sup> Even preschoolers are putting on the pounds. Since 1990, twice as many children between the ages of 2 and 5 are overweight (13.9 percent compared to 7.2 percent).<sup>5</sup>

Though children of all ethnic groups have gained weight, certain racial, ethnic, and socioeconomic groups have put on the most. As was the case 30 years ago, excess weight remains more common among African-American and Hispanic children than among whites. Whereas the gap between ethnic groups is shrinking for adults, it is growing for kids. According to a national study, from 1986 to 1998, overweight prevalence rose by more than 120 percent among African-American and Hispanic children compared with 50 percent among Caucasians.<sup>6</sup>

So what are the consequences for these kids? Sadly, given societal norms that reward thinness, these kids are likely to face significant discrimination throughout their lives. Moreover, discrimination and prejudice can

begin at a very young age. Studies on children as young as five years old show that they have already absorbed our cultural bias against fat.<sup>7</sup>

Being the target of prejudice can be devastating for overweight children. They are more likely to be sad, lonely, and nervous. One study shocked even a jaded obesity researcher like me: The study found that children who were overweight rated their quality of life as being similar to children who were being treated for cancer.<sup>8</sup> Talk about a sobering comparison!

And the effects can stick around. Being overweight during childhood can have lasting effects on self-esteem, body image, and economic mobility.<sup>9</sup> Overweight children sometimes perceive themselves as unattractive, which may lead to depression, disordered eating, and risky behaviors such as tobacco and alcohol abuse.<sup>10</sup>

Even parents have been known to discriminate against their own overweight children. One study showed that parents of overweight daughters will not spend as much money on their daughters' college education as parents of normal-weight daughters.<sup>11</sup>

If the social impact is heartbreaking, the health prognosis for these children is equally disturbing.

I'll bet if we asked Uncle Al, he would say that, due to advancements in medical technology, my Cousin Carl (his son) will have a longer life span than he will have, and that his new grandbaby will live even longer.

Well, researchers at the University of Illinois at Chicago have made a surprising new prediction: Due to increases in the prevalence of childhood obesity, today's children may not live as long as their parents.<sup>12</sup> The study suggests that weight problems could cancel out life-extending benefits of medical advances in the coming decades. As a direct result, the United States could be facing its first sustained drop in life expectancy in the modern era.

"It's one thing for an adult of 45 or 55 to develop type 2 diabetes and then experience the life-threatening complications of that—kidney failure, heart attack, stroke—in their late 50s or 60s," said Dr. David Ludwig. "But for a 4-year-old or 6-year-old who's obese to develop type 2 diabetes at 14 or 16 raises the possibility of devastating complications before reaching age 30. It's really a staggering prospect."<sup>13</sup>

Indeed, children are increasingly showing up in pediatricians' offices with type 2 diabetes and other conditions once known only to adults

(type 2 diabetes was once synonymous with adult-onset diabetes, but thanks to the rise in childhood obesity and the prevalence of this condition in overweight kids, that is no longer the case). The American Diabetes Association now estimates that as many as 45 percent of new cases of pediatric diabetes may be type 2 (not the more common type 1, or juvenile diabetes).<sup>14</sup> In fact, one study found that the number of type 2 diabetes prescriptions among children doubled from 2002 to 2005.<sup>15</sup>

Excess weight during childhood can also significantly increase the risk of disease and obesity in adulthood. Cardiovascular risk factors, for example, can be carried from childhood into adulthood, which predispose adults to severe chronic conditions such as heart failure.<sup>16</sup>

A recent study reported that increasing rates of childhood obesity also appear to be causing girls to reach puberty at an earlier age.<sup>17</sup> Results showed that the mean age of onset of breast development, which had been close to 11 years in earlier studies, is now approximately 10 years in Caucasian girls and just under nine years in African-American girls. The study's author reported: "Earlier onset of puberty in girls has been associated with a number of adverse outcomes, including psychiatric disorders and deficits in psychosocial functioning, earlier initiation of alcohol use, sexual intercourse and teenage pregnancy and increased rates of adult obesity and reproductive cancers."

So this is the kind of bleak information I encounter every day. And, yes, it bothers me. As we'll discuss in subsequent chapters, while adults have the ability to make informed choices related to diet, exercise, and weight, children do not. Most of their food consumption and physical activity decisions are made for them by parents or school administrators. So when I see a kid who is overweight, knowing that his or her excess weight will be very difficult to reverse later in life and could lead to life-long health problems and a shorter life expectancy, I feel that parents and society are not doing their job.

As a result, I am willing to be the unpopular father and coach who deprives kids of their "reward" at the end of a hard practice. And if I think our friends are not feeding their kids a healthy diet, I let them know that, too. As I said, I'm obsessed. But, hopefully, the soccer moms will read this book and understand why Coach Eric is so annoying. If not, they can always switch their kids to a different team (although they may no longer go undefeated if they do).

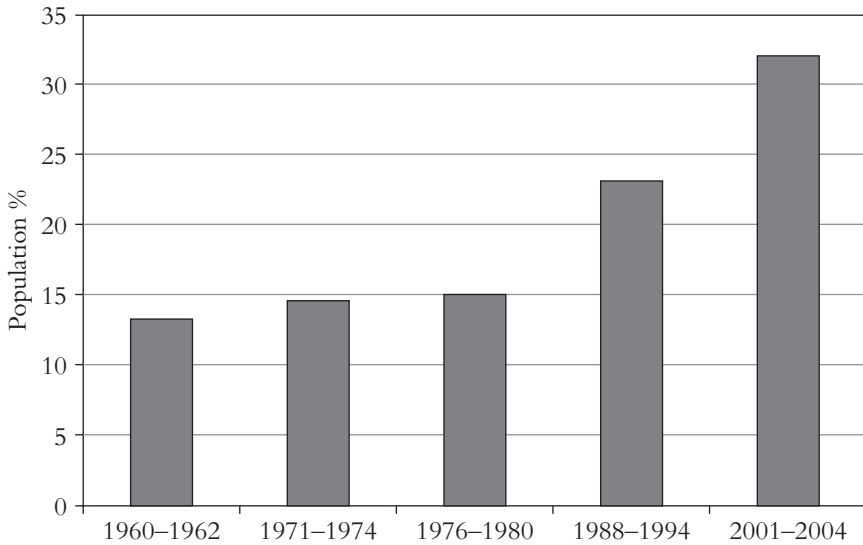
## So How about Adults? Are We Gaining, Too?

The story of obesity is not limited to kids. When it comes to adults, about two thirds of Americans are now considered to be out of the “normal” weight range (making the term *normal* a bit of a misnomer), and an increasing number of those are at least 100 or more pounds overweight. I highly doubt that these numbers surprise you. A trip to the food court at your local mall likely provides enough evidence to convince you that the obesity epidemic is for real.

Just how is adult obesity measured? The CDC defines adult obesity using body mass index (BMI), which is calculated as weight in kilograms divided by height in meters squared. A BMI between 18.5 and 25 is considered normal. At 5 feet 10 inches tall and 180 pounds, I’m now a 26, which puts me at the low end of the overweight range (25–29.9). That’s down, by the way, from a high of 29 (194 pounds) just after my son was born in 2000 (my wife and I had just moved to North Carolina and were frequent visitors to Golden Corral’s tasty and affordable all-you-can-eat buffet and other purveyors of fine southern cuisine. We also developed a penchant for sweet tea, which, although very high in calories, is delicious). Adults with a BMI over 30 are considered obese. At 5 feet 10 inches, I would have to weigh 210 pounds, about 35 pounds over my “ideal” weight, to get this honor. I would guess Uncle Al is about a 34, and that’s being a bit generous.

Prior to the 1960s, little data existed to quantify obesity rates for the general U.S. population. However, data that did exist, largely from U.S. Army soldiers, suggests that obesity rates began creeping up in the early to mid-twentieth century.<sup>18</sup> This slight increase was hardly problematic and likely represented a rising mean weight that resulted from increased food availability, reductions in the prevalence of infectious diseases, and a higher standard of living that resulted from a growing economy. Then we hit the 1980s, and suddenly the rate of obesity began to skyrocket. As you can see in Figure 1.1, the percentage of the population that is obese (meaning a BMI of 30 or higher) was only 13 percent of the total U.S. population between 1960 and 1962.<sup>19</sup> By 2004, a whopping 32 percent of American adults were obese.

Let’s dig a little deeper into obesity statistics in America. Though obesity’s reach stretches broadly across the socioeconomic spectrum, it



**Figure 1.1** National Obesity Rates (ages 20 to 74)

SOURCE: "Health, United States, 2006." Centers for Disease Control and Prevention, <http://www.cdc.gov/nchs/data/hus/06.pdf#073>.

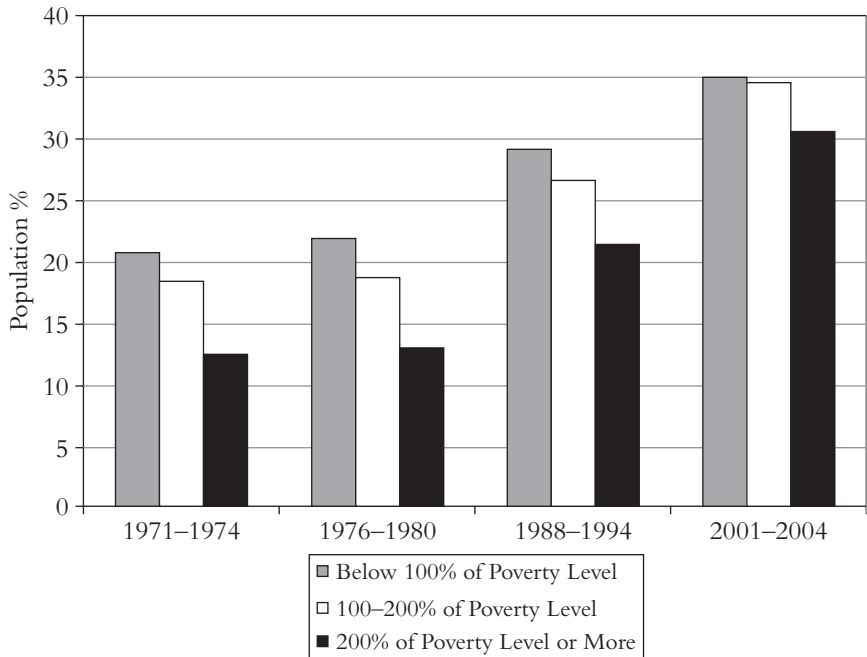
hits low-income Americans the hardest (see Figure 1.2). This trend, however, seems to be shifting. The gap in obesity rates between the richest and poorest Americans has narrowed sharply in recent years.

And, just like we saw when we looked at trends in children's obesity, although all ethnic groups have seen an increase in their BMI, certain ethnic groups have gained more weight. Interestingly, as you can see in Figure 1.3, the differential pace of weight gain across racial/ethnic groups during the past few decades has served to almost equalize the weights of male white Americans, male African-Americans, and male Mexican-Americans.

This picture, however, is radically different for women. The prevalence of obesity among white women today is roughly 30 percent, whereas this figure increases to 40 percent for Mexican women and to over 50 percent for African-American women (see Figure 1.4).

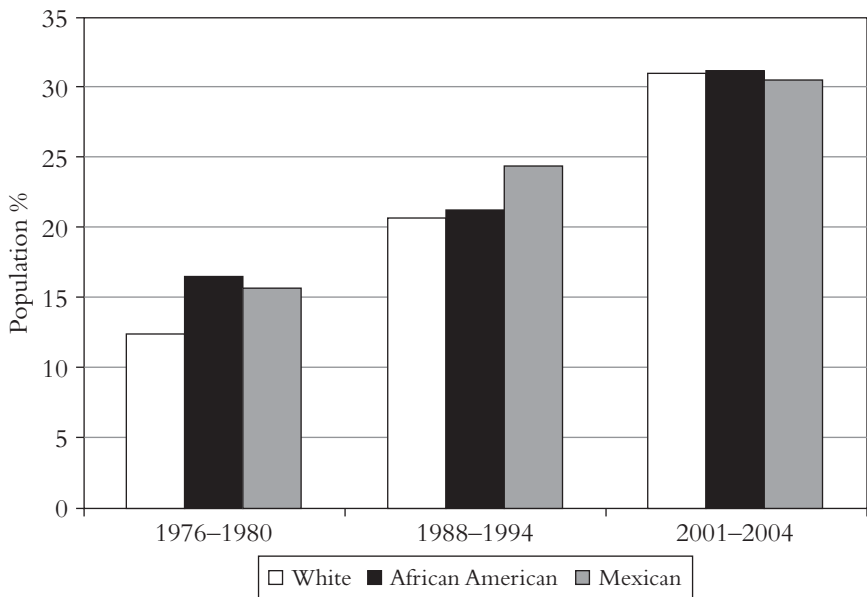
But no matter how we dissect the data, you get the point: Americans, like Uncle Al, are indeed fat and getting fatter. In fact, the average adult male is roughly 10 pounds heavier today than he was just 10 years ago,





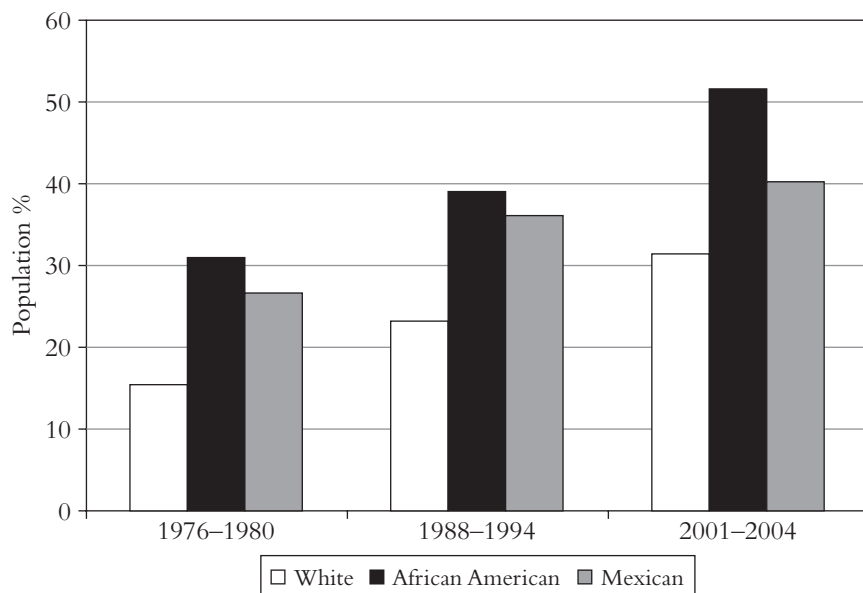
**Figure 1.2** National Obesity Rates, by Poverty Status (ages 20 to 74)

SOURCE: "Health, United States, 2006." Centers for Disease Control and Prevention, [www.cdc.gov/nchs/data/06.pdf#073](http://www.cdc.gov/nchs/data/hus/06.pdf#073).



**Figure 1.3** National Obesity Rates by Race for Males (ages 20 to 74)

SOURCE: "Health, United States, 2006." Centers for Disease Control and Prevention, [www.cdc.gov/nchs/data/06.pdf#073](http://www.cdc.gov/nchs/data/06.pdf#073).



**Figure 1.4** National Obesity Rates by Race for Females (ages 20 to 74)

SOURCE: "Health, United States, 2006." Centers for Disease Control and Prevention, [www.cdc.gov/nchs/data/06.pdf#073](http://www.cdc.gov/nchs/data/hus/06.pdf#073).

and the average adult female is about 11 pounds heavier. If we go back as far as the mid- to late 1970s, men are roughly 17 pounds heavier and women are roughly 20 pounds heavier.<sup>20</sup>

## A Growing Waistline Can Be Bad for Your Health

If carrying some extra pounds just affected how you looked in a bikini, then the rising tide of obesity wouldn't be so worrisome, especially to the one third of the population who is not overweight. However, as you are probably aware, obesity increases the risk for a host of serious medical problems. In fact, according to one recent study, poor diet and physical inactivity may soon overtake tobacco as the leading cause of death in America.<sup>21</sup> The study reported that the three leading causes of death were tobacco (435,000 deaths; 18.1 percent of total U.S. deaths), poor diet and physical inactivity (365,000 deaths; 15.2 percent), and alcohol consumption (85,000 deaths; 3.5 percent).

And though evidence suggests significant racial and ethnic differences in the susceptibility to obesity-related illnesses, obesity-related health consequences are widely found across all racial groups, and the likelihood of developing these conditions increases with increasing weight.

Uncle Al, for example, recently developed diabetes. That puts him in good company with the other 21 million adults in the United States who have this condition.<sup>22</sup> But not all diabetes is caused by obesity. My dad, who is skinny, also has diabetes. The data suggest that about 70 percent of diabetes cases in the United States are caused by excess weight.<sup>23</sup> Obese adults have about 10 times the risk of developing diabetes compared with normal-weight adults. Those who have severe obesity—100 pounds or more overweight—have about 20 times the risk.<sup>24</sup> Diabetes, in turn, increases the risk for a host of other health problems, including blindness, gout, amputations, kidney disease, infections, and cardiovascular disease.<sup>25</sup>

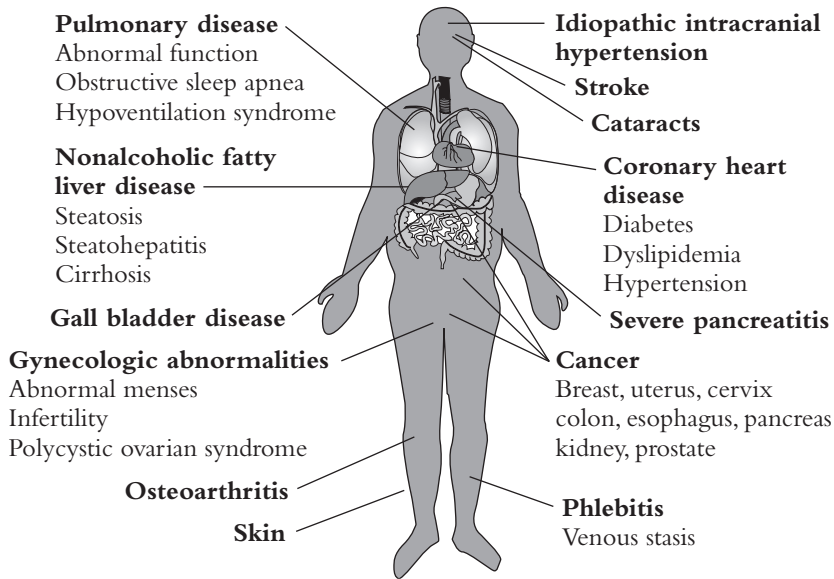
Obesity also greatly increases the risks of developing hypertension (high blood pressure) and high cholesterol. Sadly, Uncle Al now has both of these. Together, the effects of excess fat, high cholesterol, and high blood pressure damage the cardiovascular system and may lead to any number of complications.

In addition to complications of diabetes and hypertension, obesity adversely affects nearly every system of the human body (see Figure 1.5). Lower back pain, for example, has limited Uncle Al's ability to play golf, his favorite leisure activity.

Obesity among pregnant women also increases the risks for both mother and child. Examples of complications may include:

- Delayed identification of pregnancy (due both to excess weight, which masks the signs of pregnancy, and often to endocrine disorders more common in obese women that cause irregular menses).<sup>26</sup>
- Increased risk of developing pregnancy-induced hypertension, preeclampsia, and eclampsia.<sup>27,28</sup>
- A greater occurrence of labor-induced deliveries, instrument births, and higher cesarean delivery rates as well as a greater likelihood for blood loss during surgery.<sup>29–33</sup>
- Postpartum hemorrhage and postoperative infections, such as endometritis, phlebitis, urinary tract infections (UTIs), and wound infections.<sup>34</sup>

### Medical Complications of Obesity



**Figure 1.5** Medical Complications of Obesity

SOURCE: NAASO, The Obesity Society.

- For women undergoing a vaginal delivery (which, by the way, is increasingly less common), obesity is also associated with higher incidence of developing a thromboembolism (blood clot).<sup>35,36</sup>

In addition to adverse health effects of obesity on the mother, obesity in pregnancy negatively affects the fetus through an increased incidence of various birth defects.<sup>37–41</sup> One study reported that hospital readmissions are three times higher for children born to obese mothers.<sup>42</sup> These children are also more likely to grow up and become obese adults and develop the complications described above.

Those who are obese know that the impact extends far beyond the medical consequences. In fact, for many obese adults, these factors may be of secondary importance. Even as more Americans become overweight, the standard for attractiveness has largely stayed the same: thin and fit. If you don't fit the mold, you are likely to face substantial discrimination, no matter what your age.

Overweight adults are often cast as lacking in self-discipline, lazy, and mentally slow. As a result, they can face discrimination in employment, housing, and credit markets, and suffer from social stigma, social isolation, and low self-esteem.<sup>43</sup>

For all of the reasons discussed above, obesity results in reduced life expectancy. Although there remains some debate about the perfect weight to maximize longevity, evidence suggests that those who are 30 pounds overweight have a shorter life expectancy, and beyond this level, life expectancy decreases with increasing weight.<sup>44,45</sup> For example, one study published in the *Journal of the American Medical Association* (JAMA) found that those who are 30 pounds overweight lose between one and six years of life, while those who are about 100 pounds overweight<sup>46</sup> lose up to 13 years of life.<sup>47</sup>

But there is a flip side to this story. The good news is that even as obesity levels rise, at least in the United States, obesity has become a more manageable health problem than it once was, thanks to improving medical care (which we discuss in Chapter 5).

## **But Are We the Only Ones Gaining Weight?**

If it's any comfort, Americans are not alone in their struggle with their growing waistlines. The world population has now reached the point where more people are overweight than undernourished—a trend found even in the world's poorest countries, especially in their urban areas. Whereas during the past century most nutrition research and policy concerning the developing world focused on poverty, undernutrition, and how to feed the world's burgeoning population, now policy has shifted toward how to control increasing rates of obesity, even among relatively poor societies.

The pandemic is growing at such a pace that prevalence statistics become rapidly outdated. Altogether, an astounding 1.6 billion people,<sup>48</sup> or roughly 25 percent of the planet's population, are higher than the normal weight range, and 400 million of these are considered obese, according to a fall 2005 report by the United Nations' World Health Organization (WHO). WHO predicts that if current trends continue, the number of overweight or obese people will increase to 2.3 billion and the number of obese will almost double to 700 million by 2015.

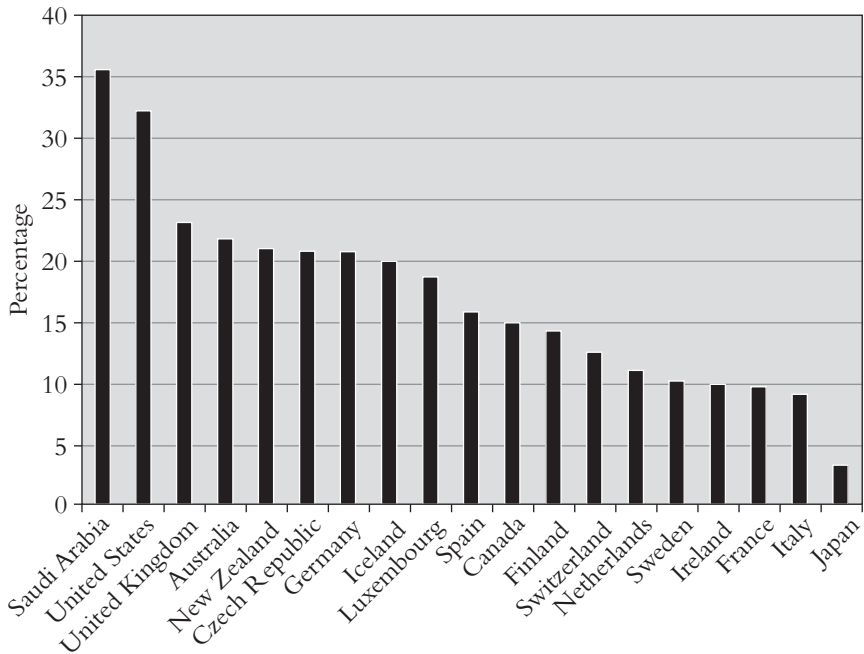
WHO estimates also show that more than 75 percent of women over the age of 30 are now overweight in countries as diverse as Barbados, Egypt, Malta, Mexico, South Africa, Turkey, and, of course, the United States. Estimates are similar for men, with more than 75 percent now overweight or obese in, for example, Argentina, Germany, Greece, Kuwait, New Zealand, Samoa, and the United Kingdom.

In fact, it may come as a surprise that America is not the fattest country—not by a long shot. Interestingly, the small western Pacific islands of Nauru and Tonga have the highest global prevalence of obesity, with 9 out of every 10 adults being overweight or obese. Largely due to genetics, however, the prevalence of obesity has always been high among these populations, whereas much of the rest of the world is quickly catching up.

Because even recent historical data on obesity rates are often missing outside of the United States and western Europe, it is difficult to quantify the super-size shift for much of the world. That said, where data are available, results show that many countries have seen larger increases in rates of obesity during the past decade than the United States. The United States has seen a 38 percent increase in obesity prevalence since the early 1990s. That puts us fairly low on the list. Countries as diverse as Iceland, Spain, New Zealand, the Czech Republic, and Saudi Arabia have all experienced larger increases. With the exception of Saudi Arabia, however, the prevalence of obesity remains larger in the United States than in these countries. However, it may just be a matter of time before they catch up. Figure 1.6 shows obesity prevalence rates for countries that have reliable data. As you can see, the United States is hardly alone when it comes to rising obesity rates.

The health consequences of obesity-related diseases are continuing to escalate worldwide. More people globally now die from chronic diseases like diabetes than from communicable diseases, including AIDS. And WHO expects that of the more than 366 million (4.4 percent of the world's population) that are predicted to have diabetes by the year 2030, three fourths will inhabit the third world (shocking considering that the third world only makes up two thirds of the world's population).<sup>49</sup>

Both India and China are already home to more people with diabetes than any other country. In China, for example, it is estimated that



**Figure 1.6** Current Obesity Prevalence Rates

SOURCE: “WHO: Global Database on Body Mass Index” and “OECD Factbook 2006: Quality of Life—Obesity.”

about 6 percent of all adults have diabetes. While that is lower than the prevalence of diabetes in the United States—9.6 percent—new cases are emerging rapidly, particularly in China’s larger cities. India is predicted to experience a much larger increase in the number of cases: from 31.7 million in 2000 to 79.4 million in 2030 (a 150 percent increase). Compare that to the projections for the United States: from 17.7 million in 2000 to 30.3 million in 2030, a 71 percent increase—alarming, but at least better than India.<sup>50</sup>

In India, diabetes is a disease of the affluent. “Jokingly in talks, I say you haven’t made it in society until you get a touch of diabetes,” said hospital executive Dr. V. Mohan, in a *New York Times* interview.<sup>51</sup>

He went on to say that people who once balanced water jugs and construction material on their heads now carry nothing heavier than a cell phone. At a four-star restaurant, he said, it is not unusual to see

a patron yank out his kit and give himself an insulin injection. “In a changing India, it seems to go this way: Make good money and get cars, get houses, get servants, get meals out, get diabetes.”

### **The Longer You Stay, the Bigger You Get**

Although obesity is a growing problem all over the world, the evidence suggests that if you come to the United States, you are likely to gain weight at a faster pace than if you stay home. Studies have shown that the longer immigrants live in the United States, the more rapid their weight gain.<sup>52</sup> The typical 5-foot 4-inch immigrant woman gains an extra 9 pounds compared to an average woman who stayed in her home country. The typical 5-foot 9-inch immigrant man gains an extra 11 pounds.

So just why is it that Americans—and much of the world, for that matter—are gaining so much weight so quickly? We explore this question in the next few chapters.