CHAPTER 1

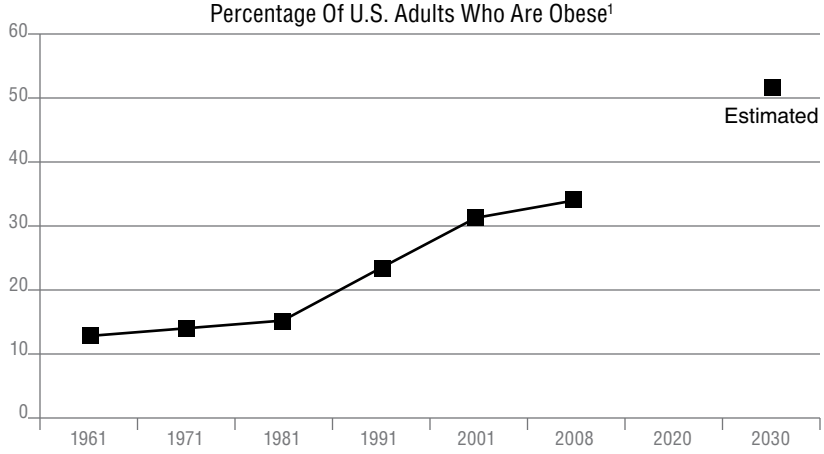
White Smoke

AS A YOUNG BOY I HAD A KNACK FOR TAKING THINGS APART, BUT NOT BEING ABLE TO PUT THEM BACK TOGETHER AGAIN. MY PARENTS USUALLY LET ME DO THIS BECAUSE THE THINGS I TOOK APART WERE USUALLY ALREADY BROKEN. I had an eight track player, microwave, television, lawn mower engine and other things torn apart in a big box in the garage. In the beginning I couldn't put them back together, let alone fix them, but I was learning how things worked. After a while I got to be really good at fixing things. That may well be the main reason my wife married me. Soon, neighbors found out I could fix things and ever since I've been helping my family and neighbors fix stuff.

One day a neighbor asked if I would take a look at his car. He pulled into the drive way and revved the engine. White smoke came pouring out of the tail pipe. It was moist, slightly sweet smelling and did not smell like burning oil. I had a pretty good idea what the problem was before he even had time to explain some of the car's symptoms. I asked him if his check engine light had come on in the recent past. He said that it had, but he got tired of seeing it and had placed a small piece of black electrical tape over the light. With the tape blocking the check engine light, he could ignore the warning and be on his merry way, as though there was nothing to worry about. White smoke in the tail pipe usually means one of two things: a blown head gasket or a cracked engine. Regardless, the engine will soon stop running and the cost to fix either one is high (thousands of dollars). I soon discovered that my neighbor had a very slow radiator leak. He let the problem continue until his engine got so hot that it blew a head gasket. His car was toast.

Through my experience with cars and fixing stuff I had learned to recognize symptoms and signs of wear and tear. In the case of my neighbor, neglecting the early signs (a check engine light) ended up ruining his car. The white smoke he was so worried about was nothing more than a symptom of a much bigger, more painful problem—a blown head gasket.

Let's look at some more white smoke. This simple graph shows the percentage of adults who are clinically obese. It's pretty easy to understand. On the bottom it shows different years since 1961. The dots on the graph show the percentage of adults (people 20 years old and older) who are clinically obese. The trend starts at about 13% in 1961 and is currently at about 35%.



In this graph, obesity is determined from the Body Mass Index (BMI). You can determine your BMI using the table at the end of this chapter. The graph shows the percentage of adults who have BMI scores of 30 or greater. If your BMI is 30 or more you are considered obese.

Between 1961 and today the number of adults who are obese has increased 150%. The obesity trend for children and adolescents is worse. They have gotten fatter at an even faster rate. Scientists have looked carefully at this trend and have estimated that by the year 2030 over 51% of all adults will be obese.[2] This is shown in the graph as the black dot in the upper right. This estimate suggests that in the next few decades over half of adults will be clinically obese.

Not shown in the graph is the number of people who are overweight, but not obese. This number has increased as well. If we add up all the people

who are overweight or obese we get 68% of all adults in the U.S. This is every adult with a BMI of 25 or greater. This is the highest prevalence of overweight ever recorded in the U.S., but next year it will likely be higher because as the graph shows, we get bigger every year.

Okay, the graph shows that we are fat and getting fatter and I'm sure that you already knew that before you started reading this book. Some of you are wondering if the rules for measuring obesity have changed. That's a great question because during this same time the rules for high blood pressure, high blood cholesterol and high blood glucose have all changed. The rules for these keep getting tighter. What used to be considered a healthy cholesterol level is now unhealthy and so the researchers keep lowering the value needed to be considered healthy. Researchers have been learning that what used to be considered healthy, may not be so—so they readjust the rules to agree with the current findings. They change the rules as more is learned. The rules for BMI have not changed. The definitions of overweight and obesity have been the same for 50 years. The chart is a consistent and accurate reflection of what has and is about to happen to us and our body weight.

This graph is exactly like the white smoke that was pouring out of my neighbor's car. It's a symptom or sign of something bigger. Other than the fact that my neighbor didn't particularly like to drive around town in a car that was putting out a smoke screen, the smoke wasn't a problem. The smoke didn't cause any problems. Yes, it was an inconvenience, and yes, people didn't like having smoke blown at them, but the smoke itself was nothing to be worried about. The symptoms or signs revealed by the chart show that we are getting bigger, much bigger, but is this a problem? Should we be concerned about our slow, gradual march toward greater body fat? All we need to do to make the trend toward obesity continue is to eat larger quantities of delicious foods, avoid exercise when possible, spend lots of time lying around watching television, sit in our cars and sit in front of our computers. Gaining body fat is not a problem, it's actually a pleasure. Weight gain is a side effect of our mostly pleasurable, socially acceptable eating behaviors.

The problem is not with the gaining of weight; the problem occurs when the extra weight starts to change our health and quality of life. The chart documents how our body fat is changing, but it reveals nothing about what really happens when we gain weight, nor does it tell us what the real problem is. It's just a warning sign.

Skinny People Are Not Exempt

If 68% of all adults are overweight or obese that leaves 32% of all adults who have a healthy body weight. I have a friend who is part of this group. She had recently gotten a physical from her doctor and had completed a blood draw to evaluate her blood glucose and cholesterol. She received a one page lab report in the mail showing her results. The report showed that she had a healthy body weight, but she doesn't get much exercise and her bad cholesterol (LDL) was high. Having a high LDL level increases her risk of cardiovascular disease. At that moment she was faced with a decision. She could have followed the example of my neighbor and taken a small piece of black electrical tape and covered up the section of her lab report that showed her cholesterol level. She could have pretended her risks didn't exist or she could begin to change her lifestyle and work with her physician to lower her risks.

Her lab report looked at a variety of health risks, and luckily for her, excessive body fat was not one of them. But, she still had some elevated health risks. Most of us are conditioned to think that if we have a healthy body weight, we are healthy. But that is simply not the case. Our beliefs about health risks are often not supported by reality. For example, the number one cause of death for smokers is not lung cancer, it's heart disease. If you smoke, the risk for heart disease goes way up. However, if you don't exercise regularly, your risk of heart disease is higher than if you were a smoker. Most of us have seen the health warnings and know that smoking is dangerous. But, the warnings about sedentary living are not as well known. We don't see them, hence we don't associate sedentary living with the same level of risk as smoking. Death and disease from sedentary living doesn't get the same level of attention as death and disease from tobacco use, so we naturally assume that smoking is worse for us.

The exact same association occurs with body fat. Individuals (68% of adults) who are overweight or obese can't hide the fact that they have elevated risks. The health risks of excessive body fat are tough to hide. The media has also done a good job of warning us about the risks associated with excess body fat so when we have excess body fat or see someone who does we are quick to think that their health is in jeopardy. On the other hand, when we see someone who has a healthy body weight we have no such thoughts about health risks. Indeed, we assume they are healthy, and we might even envy them. While it's true that health risks are low for those with a healthy body weight, there are a lot of other health risks that

could actually put them at greater risk than those who are overweight. Don't be fooled into thinking that good health is determined just by body weight. It's not. Good health is determined by a variety of health risks, one of which is excessive body fat. If you are not overweight or obese congratulations—you've been able to avoid this one health risk. But, don't get too comfortable because there are many other health risks that you could easily have that may require some behavior change.

The New Normal

Lurking behind the obesity numbers shown in the graph is a cultural transformation that affects all of us, even those of us who are not struggling with excessive weight. The obesity epidemic is just one of the signs of this societal transformation. It's a sign we can all relate to because many of us (68%) struggle with excessive body weight. We experience it on a personal, intimate level. We see it all around us. We see others who are obese or overweight. We notice that children are heavier than they used to be. For those who travel abroad, one of the first things they notice when they return to the U.S. is that people here are really big.

Being overweight has become the new normal. Decades ago, it was normal to be thin. People did more physical labor and ate differently. Today, it seems that everyone has gained weight. As a people, we are bigger now than in any other time in human history. It is now abnormal to be thin, abnormal in the sense that most of us are not thin. Most of us are overweight and being overweight has become the new normal. This change in our perceptions and recognition of excessive weight has been found to be common. As we gain weight we slowly lose the ability to identify obesity, even when it is ourselves we are judging.[3] Parents are losing the ability to look at their children and determine if they are overweight or obese.[4] Increasingly, parents of overweight children underestimate their child's weight status or are not concerned about the risks associated with being overweight. The underestimations are even worse if the parents are obese. With fewer and fewer thin people around, we see mostly overweight adults and children. Because most of those we see are big, we get accustomed to people being large and large becomes normal. Years ago, obesity was the exception, and now it's the rule. Many times, the only ones standing out now are the ones who are lean and healthy. Do you remember the first time you saw someone talking on their cell phone while using one of those small ear pieces? It looked and sounded like they were carrying on a

detailed conversation with themselves. You probably looked twice because you were sure they were talking to themselves. But, when you figured out what was going on, you likely laughed about it. If you saw someone doing the same thing today, you wouldn't think anything of it. It has become normal to see people having detailed conversations with themselves or at least with someone on their phone.

There is also a new normal in the way we eat. Over time, our relationship with food has changed. We don't eat the same way we used to. There are several aspects of food that have changed over the past few decades. These include our food quantity and our food quality. Quantity refers to increases in portion sizes; increases in the amount of food served at one meal, and the number of times we eat during the day.[5] Food quality really refers to what's in the foods we eat. Food close to its natural form is thought to have good quality, while highly processed food has low quality. Think about your great grandparents. What was the quality of their food? Most likely it included many foods that were locally grown, free from chemicals and close to their natural forms. Today, we have Coca-Cola, Hostess Twinkies and Spider-Man fruit snacks, which by the way don't contain any real fruit. Food quality also refers to the amount of energy or calories in the foods we eat. For example, a serving of cheesecake has a lot of calories, while a serving of vegetables has a lot fewer calories—it is less energy dense. Scientists refer to this as caloric or energy density. Foods that are high in fats have more calories per gram and have a higher energy density.

Decades ago, we consumed food in much smaller serving sizes. The food was also lower in caloric density and close to its natural form. Today, we drink milk, soda or juice instead of water. Grocery store shelves are lined with highly processed foods. Just take a look at the different types of breakfast cereals that can be purchased. Few of them even remotely resemble any food found in nature. These foods have become the new normal, they are the typical foods eaten by the average person. Just like healthy, thin people are sometimes seen as being abnormal, people who eat healthy foods can also be considered abnormal.

The shifts in our food choices have occurred slowly over many decades. The changes were so subtle that most often, we didn't even know that they occurred. This hasn't happened by chance; the shift to high density, poor quality foods has been deliberately planned and executed by the food industry. Brian Wansink is a food researcher who has spent his life testing how the food

industry influences our eating habits and preferences. Here is a list of a few of the food and eating observations he has documented over the years:

- If you use a 10-inch dinner plate instead of a 12-inch dinner plate you eat 22% fewer calories.
- If you serve yourself, you will eat 92% of the food on the plate. If someone else serves you, you will eat much less.
- Low-fat labels lead people to eat 16-23% more total calories.
- Because of visual illusions, people pour 28% more into short wide glasses than tall ones.
- Greater variety in the assortment and colors of candy can double how much candy a person eats in one day.
- Labeling a food as being a Succulent Italian Seafood Filet can lead diners to much more favorably rate the taste than when it was simply labeled Seafood Filet.
- Elegance of dishes and the garnishes on plates increases a person's taste ratings of food.
- When foods are presented in a large bag or container people will eat more of it. (Think of a big bag of M&M's vs. tiny bags of M&M's)

An interesting aspect of Dr. Wansink's research is that after the studies were done, all the subjects denied that their eating behavior had changed. The change in the way foods are presented or served was so subtle they didn't even realize that their eating patterns had changed. When I see how the food industry has been carefully manipulating my eating and purchasing choices I kind of feel like I've been duped, falling victim to sneaky tricks they use to get me to eat more of their foods. All the while I don't even know they are doing it. It's like they got me to do something I didn't really want to do, (like eat an additional 570 calories per day) and I had no idea I was even being manipulated—sort of like being a parent of a 3-year-old.

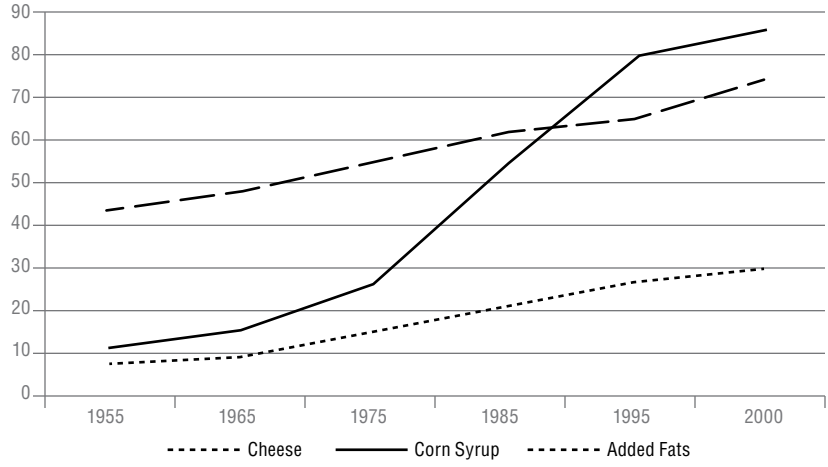
Our food portions have also increased and most of us didn't realize these changes either. Rather than serve your meal on a plate, more restaurants now use platters. Plates are not large enough to hold all the food that is being served! Kid's meals often have more calories than a typical adult meal would have contained 30 years ago. It doesn't take a rocket scientist to figure out that people who are served more food, eat more food. Common sense would suggest this is true. Yet, scientists have done studies looking at this very issue and sure enough

they have demonstrated repeatedly that when restaurants increase portion size, patrons eat more.[6] What these studies fail to point out is that restaurant patrons also get better value for their dining dollar. All those enormous servings mean that you get more food for the dollar. Smart consumers will split a meal with someone or only eat half and save the other half for later. The patrons who insist on consuming everything they are served are the ones who eventually end up on the graph shown at the beginning of this chapter. They become the overweight and obese—the new normal.

If it's true that we are all eating foods that are more energy dense—foods that have lots of calories—we should see evidence for this. Unless you've been carefully tracking everything you've been eating for your entire life, chances are you have no idea that your diet has changed and that you now eat a lot more foods that are energy dense. Cheese, cooking oils and high-fructose corn syrup are high density foods. The chart shown here shows the consumption of cheese, corn syrup and added fats for the past 50 or so years. The numbers on the chart are actually pounds per person per year. This data shows that the amount of cheese and added oils we eat has increased up to 200% and the amount of corn syrup we eat has increased 850%. In fact, the amount of corn syrup consumed in 2000 was about 85 pound per person per year.

I know what you are thinking. "I didn't eat 85 pounds of corn syrup in one year—that must have been someone else." I hear you and while it's true that these are averages and not all of it was eaten, the data is pretty accurate. So, if you didn't eat 85 pounds of corn syrup, and I'm pretty sure I didn't eat that much (at least I don't think I did). Then who did?

Per Person Consumption Of Cheese, Corn Syrup And Added Fats In The U.S. (pounds)



http://www.usda.gov/factbook/chapter2.pdf

Go to your kitchen and pull out a box or package of processed food. Something like a box of cereal, peanut butter, spaghetti sauce, yogurt or juice and look at the list of ingredients. There, you will likely find high-fructose corn syrup or corn sugar listed. These are corn-based sugars. Their production is subsidized by your federal tax dollars—they are 40% cheaper than white sugar and they are added to just about everything. Considering the fact that high-fructose corn syrup is hidden in many of the foods we eat, maybe you and I do eat 85 pounds per year. One of the best places to find high-fructose corn syrup is in soft drinks. If we as a nation are eating more high density foods, we should see increases in the amount of soft drinks being consumed. Fifty years ago the average person was drinking 10 gallons of soda a year (this information is not shown in the graph). Today, the average person consumes almost 50 gallons per year. Soft drink consumption has increased almost 500%. That's a lot of high-fructose corn syrup and a lot of extra calories. I like soda, I think it is delicious, but I try not to drink too much of it. However, I know a lot of people who drink a lot of soda and with most of that soda comes extra calories, extra pounds of fat, elevated health risks and the notoriety of being part of the fattest population in world history. It's hard to believe, but we now consume at least 50 gallons of soft drinks per person per year.

Of course, not all the foods we consume are getting eaten in greater quantities. In the past 50 years, fruit and vegetable consumption has remained relatively flat. These healthy, low energy density foods are still part of our American diet, but they are just maintaining their regular food status, while foods with high energy density become even more popular. There is one small ray of hope in the past 50 years of food consumption data. Consumption of whole grains has increased from 150 pounds to 200 pounds per year. Despite our increased desire for high-calorie foods, we seem to be eating more whole grains and that's a good thing.

Over the past 30 years, Americans have added an additional 570 calories to their daily diet.[5] The increase in calories has ultimately occurred because of two primary reasons. One, we eat more food, and two, the food we eat has more calories. These reasons describe the change that has happened in the amount of calories we consume, but it doesn't say anything about the calories we expend.

Everyone (who is living) expends calories just to maintain life. Our cells and organs use calories to work. The rest of the calories we expend

are used to move our body. Physical activity is the main way we expend calories. Obesity trends are increasing, consumption of high calorie foods is increasing, but the number of people getting regular physical activity has not increased very much. It has only increased a few percentage points in the past decade. Even though we see more people out walking, riding bikes or visiting the gym, the number of people getting regular physical activity has increased very little. Maintenance of our body weight is pretty much defined by the number of calories we consume and the number of calories we expend. If physical activity trends are flat, the number of calories expended in physical activity hasn't changed much either. Add to this the increase in calories we all consume and the net difference has produced our current epidemic of obesity.

Why Should We Care?

I've been fortunate enough to work with companies and organizations all over the U.S. Recently, I spent time working for a large mining and marine company in the southern half of the U.S. They asked me to help them improve the health of their employees. I was curious as to why they were interested in helping their employees and their spouses have healthier lives. I ask this same question to every company I work with. Usually, I get the standard reply, "We need help reducing our health care costs," or "Our employees are not productive when they are struggling with health problems." But this time I got a different answer. The reason they wanted to start an employee wellness program was because their employees were dying.

The average U.S. adult lives to the age of 78. Many of these employees were dying before 65. They told me of at least eight cases where employees had passed away of sudden cardiac arrest, diabetes, cancer or strokes—all of them before the age of 65. This company has very expensive boats and equipment that require constant maintenance and upkeep. But the most expensive and important assets they have are their people. Decades of valuable work experience and knowledge are lost when employees die. Retirement accounts go untapped, grand children never get visited and families are left to make sense of the early loss. The early loss of key employees threatened the very viability of this company.

The first time an employee died, the company was in a sudden state of shock. Certainly, people can pass away unexpectedly. This is

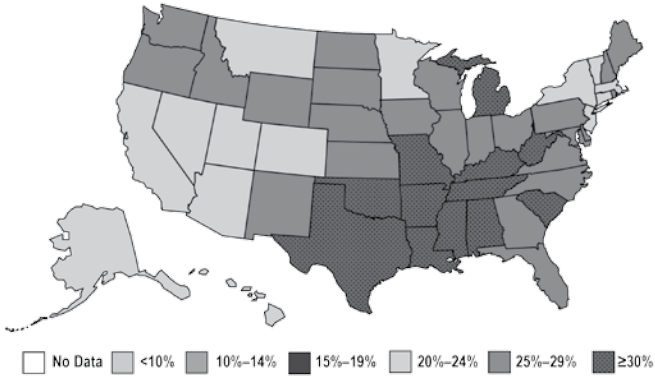
understandable; it's a normal part of life. But then it happened again. This time it was in another division of the company, but the outcome was the same. The devastating loss of valuable friends and coworkers left a gaping hole in the organization. It didn't just happen a few times, it kept happening. This company treats its employees very well. Few of them ever leave the company, so with very few people leaving, the average age of the employees is slowly climbing. With increasingly older employees working in an unhealthy part of the country the trend of premature death is likely to continue.

This company is located in the Deep South. Many foods are deep fried. Gravy is considered a beverage and over 60% of all employees smoke. Lifespans in this part of the country are not the same as the rest of the U.S. In parts of the south, lifespan is four to seven years shorter on average, and among these employees, lifespan is even shorter.[7] The main reason lifespan is shorter is because many of these employees have unhealthy behaviors. They may not eat healthy foods, may not exercise much and are likely to smoke. These behaviors cause blood pressure, glucose and cholesterol levels to elevate. They eventually develop life-ending chronic diseases like heart disease, cancer and diabetes and often they die 10 to 20 years before their time.

All this discussion about increases in our body weight, changes in our food quality and quantity, failure to improve exercise rates and having unhealthy behaviors doesn't mean much unless you are able to see where it all leads. This mining company in the south is seeing firsthand where it's going—to premature death for many of its employees. Clearly, it's worse in the southern half of the United States, but it's not confined to the south.

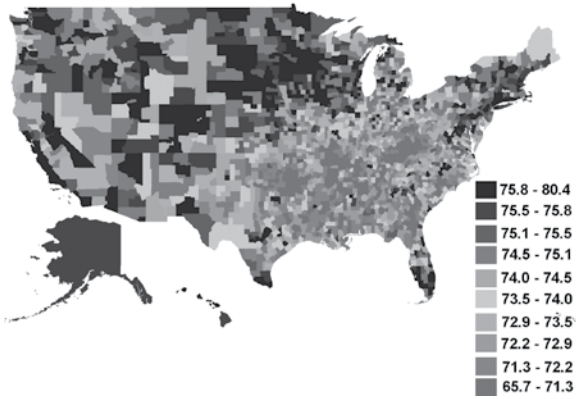
Here are a couple more charts to help you understand the seriousness of our unhealthy behaviors. The following map of the U.S. shows 2010 obesity rates on a state-by-state basis. Locate your state and you'll see that at least 20% of all adults are obese. The darkest states have obesity rates greater than 30%. Notice that with the exception of Michigan, the states with the highest rates of obesity are located in a swath that stretches from Texas to West Virginia. Don't be fooled into thinking that because your state isn't one of the darkest states you don't need to worry. Just wait a few years. In just a few short years, all the other states will catch up to the southern states.

Percent of Adults Who Are Obese (CDC)



The second U.S. map shows the life expectancy for every county.[8] The residents of the darkest counties have a life expectancy from 62 to 71 years. The people in the lightest counties live much longer on average (75-80 years). There is almost a 20-year difference in life span between the different counties.

Live Span by County[9]



Compare these two maps. States with high obesity also have the shortest life expectancy. One quarter of all U.S. counties saw an actual reduction in life expectancy for women between 1997 and 2007, meaning that girls born today are expected to live shorter lives than their mothers. The men fared just as badly. Just like the obesity maps, the lowest life spans can be seen in counties that create a swath from Texas to West Virginia. The two maps are almost identical. To be fair, life span can be influenced by our gender,

exposure to violence, infections like HIV, tobacco use and other factors, but the similarity between these two maps is striking.

In 1900, the average adult in the U.S. lived to about 45 years of age. Today, the average age at death is about 78 years. For the past century, life span in the U.S. has increased every year…until now. A reduction in life span of this magnitude is extremely rare in the developed world unless there is a catastrophic plague or war that results in widespread deaths. We haven't had any plagues and our wars have not been on American soil, and yet for the first time in the past century we're seeing reductions in life span in counties with the least healthy lifestyles.

The surveys used to create each map measured two completely different things: obesity and life span, and yet they look almost identical. That's because obesity and life span are both directly influenced by a third variable not shown on the maps: unhealthy behaviors. I could also share with you state-by-state maps showing the prevalence of smoking, poor diets or lack of exercise, but it would be a waste of paper because they all look just like the two maps on the previous page. It's worse in the Deep South, but within just a few years all areas of the U.S. will have the level of risk the south has now. The research is quite clear. Our unhealthy behaviors lead to elevated health risks, like obesity and high cholesterol. Elevated health risks lead to chronic diseases, which ultimately lead to a shortened life span.

Premature death as serious as it is, is just one outcome of our unhealthy lifestyles. There are many, many more reasons why you should be concerned about our future. Scientists who look at current trends and make predictions about the future have published some pretty frightening conclusions. Here's one in particular that really scares me.

There is an explosion of the number of people in the U.S. who have diabetes. The trend for diabetes prevalence looks a lot like the obesity trend at the beginning of this chapter. That's because obesity is the biggest single predictor of diabetes. Using the current and future trends in childhood obesity, researchers asked a single question: "What percentage of children born in the year 2000 will be diabetic before the age of 50?"[10] Among white children, 35% will be diabetic before the age of 50. The rate for black children is 43% and among Hispanic children, almost half (49%) will have diabetes before age 50. These predictions suggest that one-third to one-half of all children born in the year 2000 will have diabetes. If adults are already dying 10-20 years prematurely in the south, what will happen when all these

diabetic children grow up? The same researchers demonstrated that anyone who is diagnosed with diabetes before age 40 will likely die 12 to 14 years early. So, if these predictions hold true, we are likely to see an even steeper decline in life expectancy.

But wait, something is not right here. A government report recently showed that life expectancy had reached an all-time high of 78.3 years.[11] The report provided clear proof that Americans are living longer now than at any other time. So, how could two different government reports show seemingly opposite conclusions? Both reports are correct. In the south, life span is getting shorter for many Americans, especially among minority women, but in other parts of the country—counties that are light colored, life span is getting longer. When the different counties are averaged together, the average for the nation shows an increase in life span. It appears that there are two sides to this story. First, our health behaviors have gotten worse over time; we've gained a lot of weight and different parts of the country are worse than others. Second, despite the unhealthy behaviors we all have, our life span keeps increasing. Believe it or not, there is an answer to this mystery.

Most of us are living longer, but we're doing so with chronic disease. We have chronic diseases, but because of medications and procedures like stenting, we've been able to keep the disease at bay for a few more years before we die.[12] The number of cases of cardiovascular disease, cancers and diabetes have not dropped. If anything, they've stayed the same or increased over time, which means we live longer, but we live with chronic disease. And though many have been able to delay death, they are living a long life with a chronic disease, which is a very unpleasant experience. The length of our lives may be increasing for some Americans, but because of chronic diseases (caused by a poor lifestyle) the quality of our lives is declining. Because of the lifestyles we live, the extra years we are seeing are often marred by loss of mobility and the ability to function physically.

Besides a poor quality of life, there is something more that comes with a long, not so healthy life—an enormous health care bill. I spend my days trying to help people adopt and maintain healthy behaviors. I like to say I've devoted my life to helping people use good nutrition, exercise and healthy living to prevent and avoid chronic diseases. That being said, I'm attuned to anything health-related that I come across or hear.

One evening I was driving home from work while listening to National Public Radio. During a break the announcer was listing all the companies that had provided financial support for their programming. The announcer caught my attention when he mentioned one sponsor in particular. Novo Nordisk is a $60 billion company with over 30,000 employees worldwide. It's a massive organization with a clear mission statement: "Diabetes treatment is our passion." Not diabetes prevention or eradication, diabetes treatment. Now, I'm sure they provide great products for the treatment of diabetes, but they are in business to make money on treating a disease that is 91% preventable. I don't blame them for anything. But like hospitals, doctors, pharmaceutical companies, insurance companies, malpractice lawyers and medical equipment manufacturers, their business model is entirely dependent on people getting chronic diseases. You and I see chronic diseases as difficult trials to be survived, and others see them as outstanding business opportunities. These opportunities add up to $2.5 trillion every year and of that amount, 70% is believed to be spent on the treatment of preventable chronic diseases.[13] Unhealthy behaviors lead to chronic diseases and the most expensive health care system in the world. Currently, the cost of health care in the U.S. is $14,000 per person per year and most of this is spent treating diseases that were caused by unhealthy lifestyles.

So, in addition to a shortened life span or a long life span with a poor quality of life, there is an enormous financial burden that is the direct result of our poor behaviors and subsequent chronic diseases. You and I pay the cost. Next time you buy a car know that a large part of the purchase price is to cover the health care cost of some worker and his family.

Enough Doom And Gloom

Okay, all this talk about getting fatter, dying early and having a long, poor quality life is pretty depressing. The goal of this book is not to drag you through these gloomy health trends only to leave you with a sense of hopelessness or despair. Yes, our health is bad and it's getting worse, but a growing ray of hope is breaking forth from within the shadows of the dismal data. This ray of hope is so strong and has so much potential that I quit my cushy job to help it gain strength.

I spent 20 years of my life working in universities as a professor. I had become a full professor and had earned tenure. Basically, if you have tenure you can't be laid off. It is the ultimate in job security. Combined with a good

salary I could ride out the rest of my days in security and ease, teaching a few classes, writing a few papers and golfing in the afternoons. What a life! However, after 20 years behind the walls of academia, I decided to quit my job. I decided to walk away from the comforts, security and ease enjoyed by so many. I told my wife I was ready to be more involved in improving the health of all Americans. Rightly so, she and several of my colleagues were convinced I was nuts. Nobody leaves such a cushy job. Maybe I had lost my marbles. If what I have already described about the worsening state of our health is true, the future looks pretty bleak for millions of Americans.

I quit anyway, and I'll show you why. When consulting with people across the U.S., I meet people who, despite the pressures to be unhealthy, have managed to rise above the unhealthy environment to maintain a healthy diet, not smoke and participate in regular exercise. These people undergo a health transformation that will both extend life span and help them enjoy a long, high quality future. I call these people Island Natives.

Island Natives are people who have created and live on islands of health in order to avoid all the doom and gloom. I'm not referring to actual islands with tropical sands and turquoise seas. The islands I am referring to are more like safe havens: homes, businesses or communities, that despite being completely surrounded by a culture that promotes unhealthy behaviors, do everything necessary to make it easier to live a healthy lifestyle. The individuals (natives) who live on these islands still live in the real world. They have to balance work, family and the challenges of life just like everyone else. They live in the same neighborhoods and work at the same places we do, yet they are different. They have succeeded in being healthy while most of us fail. Throughout this book, I will share their strategies, challenges and victories. I do so because they show us an alternate way to live our lives, and there is much we can learn from them.

As gratifying as these stories are, they are just that: personal accounts of struggles to be healthy. I love to hear them, but I would have never quit my job just because I heard personal reports and inspirational before and after stories. I'm the most skeptical person I know. I want to see real data, studies that prove that people can really change behaviors, that health risks improve when they do, that chronic diseases are avoided and that life is really extended. The real reason I left academia is because the scientific evidence proves that healthy lifestyle change is effective. I quit so I could more effectively take this information to the masses where it can impact all Americans, not just the ones sitting in my classes.

We know enough now to improve public health more than in any other time in history. Cancer, heart disease, stroke, diabetes, erectile dysfunction, Alzheimer's disease, Parkinson's disease, liver disease and many, many other life-altering diseases are mostly preventable conditions. They don't have to happen. Life can be extended and quality of life can be dramatically improved. The research I've been conducting provides an obvious solution to so much suffering. I could keep my cushy job and hope people would read the studies and decide to change behaviors or I could leave and become part of a movement that can improve the health of all Americans— a mission, if you will, to transform public health. Enough research and studies have been completed. It's time to distribute the lifestyle change knowledge and tools that have been discovered to those who want to create a healthier, more enjoyable future.

Like my neighbor and his car, Americans are seeing a lot of white smoke; symptoms and signs of chronic disease, diabetes and obesity that all signal that something isn't right. The smoke isn't the problem; the real problem is something much deeper and more menacing. The first step to transforming our health is to solve this mystery. We will solve it and as soon as we do, the solution will become more obvious. Here's a hint…it involves islands of health.

Body Mass Index Table

	Normal						Overweight					Obese										Extreme Obesity														
BMI	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**
Height (inches)	**Body Weight (pounds)**																																			
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289	295
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338	344
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401	408
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443

Source: Adapted from *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report.*