

# *Eat, Drink, and Be Healthy*

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The Harvard Medical School  
Guide to Healthy Eating

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A HARVARD MEDICAL SCHOOL BOOK  
CO-DEVELOPED WITH THE HARVARD SCHOOL OF PUBLIC HEALTH

Walter C. Willett, M.D., Dr. P.H.

With Patrick J. Skerrett

Contributions by Edward L. Giovannucci, M.D., D.Sc.

Recipes by Maureen Callahan

Healthy Eating Pyramid illustration by Christopher Bing and Heather Foley

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MEDICAL AND NUTRITION EXPERTS WEIGH IN ON THE GROUNDBREAKING NEW EATING PLAN BASED ON  
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EAT, DRINK, AND BE HEALTHY  
by Walter C. Willett, M.D.

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“True to the implications of its title, *Eat, Drink, and Be Healthy* provides comprehensive evidence of the links of proper nutrition to better health and extended longevity. Professor Walter C. Willett and his learned colleagues describe new scientific work on the cardiovascular benefits from n-3 fatty acids found in nuts and some oils; on the cancer-fighting substance lycopene, found in tomatoes; on the potential hazards of consuming too much calcium; and on the advisability of taking a standard multivitamin daily. Well written and well reasoned, this book identifies a total diet that affects satiety, meets the body’s needs for energy and nutrients, and prevents or delays some specific chronic diseases.”

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emphasize manipulation of one isolated physiological mechanism as a 'cure-all.' Rather, he applies a commonsense interpretation of wide-ranging scientific studies on diet and health. In the process, he challenges widely accepted but poorly supported ideas about nutrition and health, whether they come from the popular press or from federal government committees. The ultimate winners are the readers of this book, who will come away with the tools, guidance, and rationale they need to explore new ways of eating that are delicious, health-promoting, and based on the best of science and tradition."

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To Gail

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At home my wife, Gail, assisted in many experiments in new ways of eating. Our sons Amani, who managed to trade the apples in his lunch for Twinkies at day care, and Kamali, who showed me that a vegetarian diet could mean Coca-Cola, ice cream, and pizza, helped me stay in touch with reality.

## Preface

DURING THE DARK AGES OF DIETARY ADVICE—from which we are just emerging—guidelines for good nutrition were based on guesswork and good intentions. I wrote this book to share with you what solid science is teaching us about the long-term effects of diet on health. The lessons are exciting. They show that a delicious, satisfying diet based on whole grains, healthy oils, fruits, vegetables, and good sources of protein can help you stay healthy and active to an old age.

Another reason for writing this book was to challenge the misleading advice embodied in the U.S. Department of Agriculture's ubiquitous Food Guide Pyramid. When the department announced it was considering revising the thirteen-year-old pyramid, my colleagues and I were delighted. I sent the USDA a copy of the first edition of *Eat, Drink, and Be Healthy* and said it was welcome to use the evidence-based Healthy Eating Pyramid my colleagues and I had developed. But politics and business as usual ultimately trumped science, and the USDA's new MyPyramid offers even less guidance on healthy eating than its predecessor.

In this update of *Eat, Drink, and Be Healthy*, I examine the USDA's pyramids and show you where they have gone wrong. I also include new information on weight-loss strategies, trans fats, vitamin D, and other elements of healthy eating that have emerged since this book was first published in 2001.

Over the past twenty-five years, my colleagues and I have been continually surprised by the impact of diet on the risks of a host of chronic diseases. That dietary decisions could significantly affect the chances of heart disease, various cancers, cataracts, and even serious birth defects was not appreciated by the nutrition community until relatively recently. And many aspects of diet that were off the nutrition science radar screen, such as trans fat intake, glycemic load, and low intakes of folic acid and vitamin D, have emerged as important factors in long-term health. You may not be aware of these topics, or perhaps have heard about them only in passing, even though a better understanding can be crucial to attaining long-term health. This book will guide you to make better dietary decisions for yourself and your family.

My current effort to understand the long-term effects of diet on health began in the late 1970s when I realized that people were being given strong advice about what to eat and what to avoid, but that direct evidence to support these recommendations was often weak or nonexistent. A key missing element was data based on detailed dietary intakes from many individuals that could be related to their future development of heart

disease, various cancers, and other health problems. Of course, information on medical history, smoking, physical activity, and other lifestyle variables would be needed to isolate the effects of diet. Fortunately, at this time I was already investigating the relation of cigarette smoking to heart disease within the Nurses' Health Study, an ongoing study of over 121,000 women across the United States, and this appeared to be an ideal group in which to investigate the long-term consequences of various diets. The first step was to develop a standardized method of dietary assessment for such a large population; many colleagues were skeptical that this was possible, perhaps appropriately so. Borrowing on work done at Harvard in the 1940s, we developed a series of self-administered dietary questionnaires and were able to document their validity in a series of detailed evaluations. Since 1980 we have been following women in this study with periodic updating of dietary and other information and have also added large cohorts of men and additional women. Although our large prospective studies have provided a unique and powerful flow of information about diet and health, the best understanding of a topic as complex as diet and health should incorporate evidence from all available sources. This book attempts to do this, giving special weight to studies of actual disease risk in humans.

My own interest in food and health actually goes back much further than the studies described above. The Willett family has been involved in dairy farming in Michigan for many generations, so it was only natural that I joined the 4-H club when I was growing up. Vegetable growing was one of my major activities, and I was the Michigan winner of a National Junior Vegetable Growers Association contest. As an undergraduate at Michigan State University, I studied physics and food science, and paid tuition by growing vegetables during the summers. In medical school at the University of Michigan, I had the opportunity to conduct a nutrition survey in a Native American community, my first experience in epidemiologic research and standardized methods of dietary assessment that were later developed for much larger-scale use. For internship and residency, I joined the Harvard Medical Service of Boston City Hospital, where I had the good fortune to meet individuals, many of whom remain colleagues today, who were interested in understanding the environmental and cultural origins of disease, rather than just its treatment. As a result, I enrolled in Harvard School of Public Health, where I studied more about nutrition. After completing a residency in internal medicine, I taught community medicine for three years at the Faculty of Medicine in Dar es Salaam, Tanzania. While there, I studied the relation between parasitic infections and malnutrition in children, and I became even more impressed with the power of epidemiologic approaches to understanding the occurrence of disease and to guide both prevention and treatment. Returning to Boston, I enrolled in a doctoral program in epidemiology at Harvard School of Public Health and

began work on the Nurses' Health Study, which had begun one year earlier. Since then, the central theme in my work has been to develop and use epidemiologic approaches to study the relation of diet to the occurrence of disease. This has resulted in a textbook, *Nutritional Epidemiology*, and the publication of over nine hundred scientific articles. As we have seen the results from our research emerge, most of my colleagues and I have taken advantage of this information and substantially modified our activity levels and diet. This book is my attempt to assemble this information in a cohesive manner that is directly accessible to everyone. I hope that this information will lead to healthier, longer, and more interesting lives for others.

In producing this book, I have been joined by Dr. Ed Giovannucci, who has led much of our work on diet and cancer. P.J. Skerrett, an experienced science writer, has helped to create a text that departs from our usual terse scientific style. Maureen Callahan, a well-known dietitian and food writer, has added a section on the practical translation of nutritional science to food selection and preparation, and has also contributed many recipes that reflect the evidence presented earlier in the book. Perhaps one of the most important conclusions of our work is that healthy diets—and there is no single healthy diet—do not mean deprivation or monotony. In fact, the opposite is true. The classical midwestern American diet centered on mashed potatoes, roast beef, and gravy—besides being among the world's unhealthiest fares—was terribly dull compared to what I describe in this book. And the recipes included here represent just a sampling of the tremendously varied possibilities for healthy and exciting eating.

# Building a Better Pyramid

YOU EAT TO LIVE.

It's a simple, obvious truth. You need food for the basics of everyday life—to pump blood, move muscles, think thoughts. But food can also help you live well and live longer. By making the right choices, you can avoid some of the things we think of as the inevitable penalties of getting older. A healthy diet teamed with regular exercise and not smoking can eliminate 80 percent of heart disease and the majority of cancer cases. Making poor choices—eating too much of the wrong kinds of food and too little of the right kinds, or too much food altogether—increases your chances of developing cancer, heart disease, and diabetes. It contributes to digestive disorders and aging-related loss of vision. It may influence Alzheimer's disease. An unhealthy diet during pregnancy can cause some birth defects, and may even influence a baby's health into adulthood and old age.

When it comes to diet, knowing what's good and what's bad isn't easy. The food industry spends billions of dollars a year to influence your choices. Diet gurus promote the latest fads, while the media serves up near daily helpings of often flip-flopping nutrition news. Supermarkets and fast-food restaurants offer advice, as do cereal boxes and a sea of Internet sites.

Where can you turn as a source of reliable information on healthy eating? The U.S. Department of Agriculture (USDA) touts its new food pyramid and “food guidance system” as aids to help you make healthier food choices. In reality, these tools help farmers and food companies more than they will help you.

## TURNING TO THE USDA PYRAMID IS A MISTAKE

Through the Food Guide Pyramid, now called MyPyramid (see [Figure 1](#)), the USDA presents what it wants you to think of as rock-solid nutrition information that rises above the jungle of misinformation and contradictory claims. What it really offers is wishy-washy, scientifically unfounded advice on an absolutely vital topic—what to eat.

The original Food Guide Pyramid, unveiled in 1992, was built on shaky scientific ground. It included six food groups, each labeled with recommended daily servings. At the foundation sat an admonition to load up on highly refined starches, while the top was crowned with a “Use Sparingly” group that included fats, oils, and sweets. In between were fruits, vegetables, protein, and dairy.



FIG. 1 MyPyramid. In 2005, the USDA unveiled its catchy but information-free replacement for the familiar Food Guide Pyramid.

Over the next thirteen years, research from around the globe eroded the Food Guide Pyramid at all levels. Results from scores of large and small studies chipped away at its foundation (carbohydrates), middle (meat and milk), and tip (fats). The USDA never renovated the Pyramid, but left it to crumble under the weight of new scientific evidence.

Taking a cue from television reality shows, the agriculture department gave the Pyramid an extreme makeover in April 2005. It tipped the Pyramid on its side and painted it with a rainbow of brightly colored bands running vertically from the tip to the base. A jaunty stick figure runs up stairs chiseled into the left side. That's it—no labels, no text, not even the equivalent of a nutritional Rosetta stone to help you decipher what it means. For that you need a computer and a connection to the Internet.

The good news about the makeover is that the USDA finally took a wrecking ball to its dangerously outmoded Pyramid. The bad news is that its replacement doesn't offer any real information to help you make healthy choices, and continues to recommend foods that aren't essential to good health and that may even be detrimental in the quantities included in MyPyramid.

At best, MyPyramid stands as a missed opportunity to improve the health of millions of people. At worst, the lack of information and downright misinformation it conveys contribute to overweight, poor health, and unnecessary early deaths.

## REBUILDING THE PYRAMID

I wrote this book to show you where the USDA pyramids—old and new—went wrong and why they are wrong. In their place, I offer a better guide to healthful eating based on the best scientific evidence available today. It fixes the fundamental flaws of the USDA's advice and helps you make better choices about what you eat. I also want to give you the latest information on new discoveries that should have profound effects on how and what we eat.

The New Healthy Eating Pyramid (see [Figure 2](#)) gathers much of this information into a simple, easy-to-use, and familiar icon. It encourages you

to choose most of the foods you eat from the lower sections—whole grains, healthy oils, fruits, vegetables, nuts, and legumes. You don't have to weigh your food or tally up fat grams. There are no complicated food exchange tables to follow. You needn't eat odd combinations of foods or religiously avoid particular foods (except those containing trans fats).

## The New Healthy Eating Pyramid



FIG. 2 Healthy Eating Pyramid. This pyramid, based on solid science, offers better guidance for healthy eating than the advice from the USDA.

The New Healthy Eating Pyramid isn't a diet designed to help you shed pounds. Instead, it aims to nudge you toward eating mostly familiar foods that have been shown to improve health and reduce the risk of chronic disease. The eating strategies embodied in the pyramid and explained in this book involve simple changes you can make one at a time. Because they will make your meals and snacks tastier, and help keep hunger at bay, these changes can also help you lose weight or keep it under control. Best of all, it is a strategy you can stick with for years.

You don't have to take my word for it. After *Eat, Drink, and Be Healthy* was first published in 2001, I received a flood of letters and e-mail messages from readers around the world. Others posted comments in the review sections of online booksellers. Typical of these notes, one reader wrote, "What you get if you follow this book is the satisfaction of feeling you really can, and will, eat this way for the rest of your life and be all the better for it. I lost 30 pounds over six months by eating this way and exercising regularly. It isn't a diet but guidelines on nutrition. Losing weight is just the bonus side effect of being much more healthy."

The Healthy Eating Pyramid isn't a cute idea dolled up in a catchy graphic.

It represents evidence distilled from forty years of research conducted at Harvard and around the world. This shouldn't be an important point, but it is. Virtually none of the diets used by millions of Americans—or the USDA pyramids—have been built on this kind of solid evidence.

## HOW THE USDA PYRAMID GOT ITS SHAPE

Once upon a time, wrote Rudyard Kipling in his classic children's story "The Elephant's Child," elephants didn't have trunks, only blackish, bulgy noses as big as a boot. That changed when the curious elephant's child ended up in the middle of a terrific tug-of-war, with a crocodile clamped onto its nose and a python wrapped around its legs. That's pretty much how the USDA Pyramid got its structure—yanked this way and that by competing powerful interests, few of which had your health as a central goal.

The thing to keep in mind about the Pyramid is that it comes from the arm of the federal government responsible for promoting American agriculture. It doesn't come from agencies established to monitor and protect our health, like the Institute of Medicine or the National Institutes of Health. And there's the root of the problem—what's good for agricultural interests isn't necessarily good for the people who eat their products.

Serving two masters is tricky business, especially when one of them includes persuasive, connected, and well-funded representatives of the formidable meat, dairy, and sugar industries. The end result of the tug-of-war between the food industry and nutrition science is a set of positive, feel-good, all-inclusive recommendations that distort what could be the single most important tool for improving your health and the health of the nation—guidelines on healthful eating.

## FOOD POLITICS

When it (finally) came time to "fix" the Pyramid, lobbying and politics took center stage, while science and the health of the American people took a back seat.

The story begins with the Dietary Guidelines for Americans, a document the USDA says provides "authoritative advice for people two years and older about how good dietary habits can promote health and reduce risk for major chronic diseases." By law, these guidelines must be revised every five years. It is supposed to be a scholarly and scientific process, but is often a free-for-all among lobbyists for agribusinesses, food companies, and special-interest groups.

In 2003, a new executive director was appointed for the center. Curiously, the person chosen for the job was an expert in animal nutrition whose previous jobs had been with the National Livestock and Meat Board, the National Pork Producers Association, and the National Pork Board.

The 2005 revision began as in past years—the USDA selected a committee of thirteen respected nutrition experts from across the country. The committee sifted through the latest research and time-tested knowledge to figure out what we know about the American diet and healthful eating.

But a funny thing happened on the way to the final report. Instead of writing the Dietary Guidelines for Americans 2005, the committee was told to hand over its findings to a second committee charged with translating the science into useful guidelines. That committee was never formed. How the Department of Agriculture developed the final guidelines isn't clear, since the process was so obscure.

This handoff created subtle but important shifts in emphasis in the final guidelines. For example, the committee said that less than 1 percent of our daily calories should come from harmful trans fats, which are found in many prepared foods. What the Dietary Guidelines for Americans ultimately said is that we should keep trans fat intake “as low as possible,” a recommendation that is open to interpretation. The committee specified that whole grains should account for at least half of daily carbohydrate intake. MyPyramid gives this a gentle but telling twist, “Make half your grains whole,” which implies that half should be refined.

For the pyramid redesign, the USDA turned to public relations giant Porter-Novelli, which helped build the first pyramid in 1992. (The company's other current or former clients include McDonald's, The Snack Food Association, Krispy Kreme, Johnnie Walker, and Masterfoods USA, maker of M&Ms.) Porter-Novelli designed MyPyramid, its Web site, and the mini-marketing campaign to promote it.

## WHY THIS MATTERS

If the Dietary Guidelines and MyPyramid were merely optional recommendations and diet aids, we might be able to overlook the hijacking of the process used to create them. But the Dietary Guidelines set the standards for all federal nutrition programs. These include food stamps, school lunch programs, and food services for those serving in the armed forces as well as in federal prisons. The Dietary Guidelines and Pyramid also help determine what foods and food products Americans buy. In other words, they influence how billions of dollars are spent each year. No wonder food companies lobby so hard for changes that will benefit them, not the American public.

## THE HOLES IN THE USDA PYRAMIDS

Some recommendations on diet and nutrition are misguided because they are based on inadequate or incomplete information. That hasn't been the case for the USDA's pyramids. They are wrong because they brush aside

evidence on healthful eating that has been carefully assembled over the past forty years.

Since MyPyramid is mainly a gussied-up version of the old Food Guide Pyramid (see [Figure 3](#)), let me explain the original's problems first. Then I will tell you why MyPyramid isn't worth a fraction of the .5 million the USDA spent to create it.

## Food Guide Pyramid

Here are the Food Guide Pyramid's six most health-damaging faults:

- All fats are bad. Wrong—some fats are good for you.

There is no question that two of the four main types of fat contribute to atherosclerosis, the artery-clogging process that leads to heart disease, stroke, and other problems. These are saturated fats, abundant in whole milk or red meat, and trans fats, found in many hard margarines, vegetable shortenings, prepared baked goods, and fried foods in restaurants. But the other main types of fat are good for your heart. These are the monounsaturated and polyunsaturated fats found in olive oil and other vegetable oils, nuts, whole grains, other plant products, and fish. (See [chapter 4](#).) The Food Guide Pyramid's recommendation to use fats "sparingly" helped foster the fat phobia that has led many Americans to throw out the baby with the bathwater.

## The USDA's Original Food Guide Pyramid



FIG. 3 USDA pyramid, 1992–2005. Despite sweeping changes in the science of healthy eating, this initially flawed pyramid went unchanged for thirteen years.

- All carbohydrates are good. Wrong again—some are, some aren't.

The Food Guide Pyramid told us that we should feel good about eating carbohydrates, especially if we ate them in place of fats. For most people, this meant eating white bread, potatoes, pasta, and white rice, the main sources of carbohydrates in the American diet. This simplistic message

ignored the fact that some carbohydrates are good for you while others aren't. In fact, eating too much of the wrong kinds of carbohydrates and too little of the right kinds can set you up for the same problems you may be trying to solve, such as overweight and heart disease.

Eating rapidly digested starches, like those in white bread, a baked potato, or white rice, causes a swift, high spike in blood sugar followed by an equally fast fall. This blood sugar roller coaster—and the insulin one that shadows it—triggers the early return of hunger pangs. These starches are also implicated as part of the perilous pathway to heart disease and diabetes. The harmful effects of rapidly digested carbohydrates are especially serious for people who are overweight.

The carbohydrates in whole grains, such as oats or brown rice, in foods made with whole grains, like whole-wheat pasta or bread, or in beans have a slow, low, and steady effect on blood sugar and insulin levels. This helps you feel full longer and keeps you from getting hungry right away. Whole grains and other sources of slowly digested carbohydrates give you important fiber plus plenty of vitamins and minerals. They also protect you against heart disease and diabetes. These are the carbohydrate sources that should form the keystone of a healthy diet.

- Protein sources are interchangeable. It's the protein package you have to watch out for.

You need protein every day and can get it from a variety of sources. The Food Guide Pyramid served up as equals red meat, poultry, fish, eggs, beans, and nuts. All are indeed excellent sources of protein. But red meat is a poor protein package because of the saturated fat and cholesterol that often tag along. Red meat may also give you too much iron in a form the body absorbs whether it is needed or not. Chicken and turkey give you less saturated fat. The same is true for fish, which delivers some essential unsaturated fats as well. Beans and nuts have some advantages over animal sources of protein. They give you fiber, vitamins, minerals, and healthy unsaturated fats. Like fruits and vegetables, they also provide you with a host of phytochemicals, an ever-expanding collection of plant products that help protect you from a variety of chronic diseases.

- Dairy products are essential. You need calcium, not dairy products.

The Food Guide Pyramid called for two to three servings of milk, yogurt, cheese, or other dairy products a day. These foods are good sources of calcium, which is needed to build and protect bones. Exactly how much we need, though, isn't clear.

Osteoporosis, a disease that weakens bones and makes them prone to breaking, affects about ten million older Americans. As part of the fight against it, dairy products have been enlisted to reverse our so-called calcium emergency. It's a message that the hip "got milk?" milk-mustache ads (sponsored by the dairy industry) hammer home to every possible

demographic group. Only there isn't a calcium emergency. Americans get more calcium than the residents of almost every other country except Holland and the Scandinavian countries, and still have one of the highest rates of hip fracture in the world. Other countries with less than half of our average calcium intake have far less osteoporosis. (See [chapter 9](#).) Further complicating the issue are some studies suggesting that drinking or eating a lot of dairy products may increase a woman's chances of developing ovarian cancer or a man's chances of developing advanced prostate cancer.

If you need extra calcium, there are cheaper, easier, and healthier ways to get it than dairy products. (See [chapter 9](#).)

- Eat your potatoes. That's okay advice for those who are physically active all day long, but it doesn't work for the rest of us.

Nutritionists and diet books often call potatoes a "perfect food." Eating potatoes on a daily basis may be fine for lean people who exercise a lot or do regular manual labor. But for everyone else, potatoes should be an occasional food eaten in modest amounts, not a daily vegetable. The venerable baked potato increases blood sugar and insulin levels nearly as fast and as high as pure table sugar. French fries do much the same thing, while also typically packing an unhealthy wallop of trans fats. More than two hundred studies have shown that people who eat plenty of fruits and vegetables decrease their chances of having heart attacks or strokes, of developing a variety of cancers, or of suffering from constipation or other digestive problems. The same body of evidence shows that potatoes don't contribute to this benefit.

- No guidance on weight, exercise, alcohol, and vitamins. Like the Sphinx, the Food Guide Pyramid was silent on four things you need to know about: the importance of weight control, the necessity of daily exercise, the potential health benefits of a daily alcoholic drink, and what you can gain by taking a daily multivitamin.

## MyPyramid

The new pyramid is based on the latest Dietary Guidelines for Americans. This document includes some important advances over previous versions. The 2005 guidelines acknowledge the potential health benefits of unsaturated fats, stress the health benefits of whole grains, and emphasize the importance of controlling weight. Other sections of the new guidelines, though, remain mired in the past. These include the tacit advice that it is okay to consume half your grains as refined starch; the lumping together of red meat, poultry, fish, and beans as interchangeable protein sources; and the recommendation of three daily servings of milk or other dairy products.

The one positive advance of MyPyramid is its stress on exercise and physical activity as an important part of any healthy eating strategy. Sadly,

this comes at a time when federal and state budgets continue to cut back on funds for physical activity in schools, and little attention is paid to providing Americans with safe places to exercise.

Other than that, MyPyramid contains ... nothing. Look at the image on a cereal box and you have no idea what the orange, green, red, blue, and purple stripes mean, and you probably can't see the yellow one. Here's a key: orange for grains, green for vegetables, red for fruits, yellow for oils, blue for dairy, and purple for meat and beans.

MyPyramid dispenses with the simple advice embodied in the old pyramid, which was to eat more from food groups near the bottom of the pyramid and less from those at the top. The use of vertical stripes is a big win for the food industry, which despised the original pyramid design because it presented the food groups at the bottom as good and stigmatized those at the top. The left-to-right design presents all foods as essentially equal. This is in line with the federal government's support for dietary guidance that "promotes the view that all foods can be part of a healthy and balanced diet, and supports personal responsibility to choose a diet conducive to individual energy balance, weight control, and health."\* In other words, there is no such thing as a bad food.

MyPyramid advocates three servings of dairy products a day, equates bologna with beans, and implies it's healthful to get half your daily grains in the form of highly refined starch. It doesn't bother to warn you away from foods that play little part in a healthful diet: trans fats, rapidly digested carbohydrates, and added sugars.

MyPyramid is a creature of the World Wide Web ([www.mypyramid.gov](http://www.mypyramid.gov)). To those with Internet access and the time to poke around, it offers layers of information on the striped food groups. It also allows you to "personalize" a pyramid, based on your age, sex, and activity level. This sounds like a good idea, but it isn't.

The personalized pyramids leave out body size, the most important factor in determining how many calories you need each day. Then they serve up diet prescriptions so detailed and precise that even an experienced nutritionist couldn't follow them. Your personalized pyramid might recommend fractions of ounces for servings of meat (no mention of beans or nuts) and fractions of cups of grains and vegetables. The calculations of daily calorie requirements for an individual based on age, sex, and daily activity can easily be off by 500 calories. That's enough to cause unwanted weight loss or a gain of 50 pounds over a year or two.

Individuals without Internet access get almost nothing from MyPyramid. By putting virtually all of its nutrition information on the Web, rather than including some of it on the pyramid, the USDA is widening the digital divide and doing little to improve the health and eating habits of those who need the most help.

## THE HEALTHY EATING PYRAMID IS BASED ON SCIENCE

You deserve more accurate, more helpful, and less biased information than what's offered by the USDA. I have tried to collect exactly that in the Healthy Eating Pyramid. Without question, I had the advantage of starting with a lot more information than the USDA did when it built its first pyramid. Just as important, I didn't have to negotiate with any special-interest groups when it came time to design this Pyramid.

The Healthy Eating Pyramid isn't set in stone. I don't have all the answers, nor can I predict what nutrition researchers will turn up in the decade ahead. But I can give you a solid sense of state-of-the-art healthy eating today and point out where things are heading. This isn't the only alternative to the USDA's advice. The Asian, Latin, Mediterranean, and vegetarian pyramids promoted by Oldways Preservation and Exchange Trust are also good, evidence-based guides to healthy eating. But the Healthy Eating Pyramid takes advantage of even more extensive research and offers a broader guide that is not based on a specific culture.

In the chapters that follow, I lay out the evidence that shaped this blueprint for healthy eating. I also chart out extra information to help people with special nutritional needs get the most benefit from what they eat. These include pregnant women and people with, or at high risk of, heart disease, diabetes, high cholesterol, high blood pressure, and some other chronic conditions.

For now, though, this summary of the seven healthiest changes you can make in your diet describes how the Healthy Eating Pyramid differs from the USDA's. Topping the list is controlling your weight.

- Watch your weight. When it comes to long-term health, keeping your weight from creeping up on you is more important than the exact ratio of fats to carbohydrates or the types and amounts of antioxidants in your food. The lower and more stable your weight, the lower your chances of having or dying from a heart attack, stroke, or other type of cardiovascular disease; of developing high blood pressure, high cholesterol, [End of Sample]