



SHAPE UP AMERICA!

THE IMPACT OF SMALL DIETARY CHANGE

THE PROJECTED HEALTH SAVINGS FROM CHANGING TO LEAN MEAT PROTEIN IN COMMON FAMILY MEALS

April 14, 2010



SHAPE UP AMERICA!

Introduction

As a nation, we are experiencing an epidemic of obesity. Today, an estimated 32.7 percent of U.S. adults 20 years and older are overweight, 34.3 percent are obese and 5.9 percent are morbidly obese,¹ resulting in approximately \$147 billion in direct and indirect health-care costs annually.² And since there is a strong correlation between obesity and such co-morbid conditions as Type 2 diabetes, hypertension, cardiovascular disease and certain types of cancers,³ these costs are expected to double every 10 years.⁴ In fact, by 2030, the health-care costs attributable to overweight and obesity could account for 16 percent to 18 percent of total U.S. health-care costs.⁴

While these statistics are alarming, what is even more problematic for the public health community is escalating rates of childhood obesity and the potential consequences for increased prevalence of chronic disease in future years. Over the past 30 years, childhood obesity has more than tripled in the United States, with 19.6 percent of children ages 6 years to 11 years and 18.1 percent of adolescents ages 12 years to 19 years now at an unhealthy weight.^{5,6} As a consequence, more children are at increased risk for associated so-called adult diseases and these diseases are occurring earlier in life, including heart disease, Type 2 diabetes, stroke, several types of cancer and osteoarthritis.⁷ In fact, in one recent population-based sample of 5-year-olds to 17-year-olds, 70 percent of obese youth already had one risk factor for cardiovascular disease and 25 percent had two.⁸

The sobering impact of these statistics is reflected in the nation's concurrent epidemics of heart disease, Type 2 diabetes and other chronic diseases. Accordingly, the new U.S. Surgeon General – Dr. Regina M. Benjamin – recently stated: “Today’s epidemic of overweight and obesity threatens the historic progress we have made in increasing American’s quality and years of healthy life.”

In recognition of this growing health threat, former President Bill Clinton and First Lady Michelle Obama, the current and all living former U.S. Surgeons General and many other health leaders have joined with virtually every major medical society and public health organization in urging overweight individuals to make small decreases in food and beverage calories – a key recommendation contained in the *U.S. Dietary Guidelines for Americans 2005*. Among the advice contained in the *Dietary Guidelines* is to keep total fat intake to between 20 percent and 35 percent of calories, and to select meat and poultry products that are lean and low in fat. A high intake of dietary fat generally increases saturated fat and total calories. This is because a gram of fat has 9 calories, while a gram of either carbohydrate or protein has only 4 calories.

Even though the federal government and the public health community have devoted significant time and resources to promoting this common-sense advice, the fact remains that most Americans have no idea what the *Dietary Guidelines* recommend or how to put this advice into practice. According to the *2009 Health & Food Survey* conducted for the International Food Information Council (IFIC), while 48 percent of consumers say they have heard of the *Dietary Guidelines*, only 4 percent say they know a lot about them while another 19 percent say they are somewhat familiar with the recommendations. However, more than a fourth of the public – 28 percent – admit they never heard of the *Dietary Guidelines*. Thus, making it easier for people to understand and incorporate healthful foods into the diet is a priority concern of health and nutrition professionals. According to a January 2009 survey of 500 health professionals conducted by Harris Interactive Service Bureau, the majority of registered dietitians (97 percent) and pediatricians (96 percent) surveyed agreed that in order to fight the obesity crisis, Americans need to think positively about what foods to eat to improve their health.

Making it easier for consumers to improve their diets, however, also requires connecting the dots, so Americans will recognize that making simple modifications to the family meal pays off in quick and meaningful health improvements. Towards this end, Shape Up America!, the healthy weight campaign initiated by former U.S. Surgeon General C. Everett Koop, conducted a nutritional analysis of commonly consumed family meals with the goal of answering this basic question: How much could an individual save over a year in reduced calories, fat, saturated fat and cholesterol simply by making one simple change in the diet once a week?

Study Design

Since surveys find Americans eat meat and poultry an average of 4.2 times a week,⁹ the Shape Up America! research focused on calculating the nutritional savings if Americans simply changed the meat protein to turkey, a lean protein that tends to be lower in calories and fat than beef, pork, lamb and veal. The team started by identifying 22 breakfast, lunch and dinner options that are considered easy to prepare, economical and therefore, frequently served in American households. The researchers used a nutrition database to compare the amount of calories, total fat, saturated fat and cholesterol in the original meat recipe and then in the turkey-based version.

To demonstrate what this simple change produces in improved health, the Shape Up America! team considered two different scenarios over the course of a year if the turkey version was consumed once a week. The first scenario estimated the reduction in calories, total fat, saturated fat and cholesterol if a family added a different turkey meal once a week at either breakfast, lunch or dinner instead of a meal using a higher fat meat protein. The second scenario addressed the potential savings by substituting turkey in a popular and commonly consumed meal item once a week over the course of a year. Both scenarios assumed that all other factors remain constant.

Scenario 1:

Shape Up America! found a savings of 6,408 calories a year or almost 2 pounds (1.8 pounds) in excess weight if Americans substituted lean turkey for another meat protein one time a week at alternating meal occasions (i.e., breakfast or lunch or dinner) from week to week. This scenario netted an average reduction in the total fat, saturated fat and cholesterol consumed by 59 percent, 71 percent and 28 percent, respectively.

Scenario 2:

Because many families consume similar menu items from week to week, Shape Up America! also examined the annual health savings if Americans served a lower-fat turkey version of the same meat-based food item once a week. Here, the research team chose lasagna, because it is a popular and economical dish that many families serve frequently. By substituting lean ground turkey for ground beef in the lasagna recipe and making some other modifications to the recipe (light pasta sauce, lower-fat cheeses) the researchers obtained a savings per meal occasion of 239 calories and an annual savings of 12,428 calories or 3.6 pounds a year. In addition, these simple changes to the lasagna recipe resulted in an average reduction in the total fat, saturated fat and cholesterol consumed by 66 percent, 73 percent and 22 percent, respectively.

Average Calorie Savings Per Meal Occasion:

Beyond these two scenarios, Shape Up America! also calculated the average calorie savings per meal occasion when lean turkey is substituted on a daily basis. This is an important benchmark for documenting what this one dietary change could mean in reducing overweight and obesity. Using the savings from the 22 meals studied, Shape Up America! estimates Americans can save an average of 108 calories a day simply by changing the source of the meat protein. From a health perspective, this calorie reduction is significant if sustained on a daily basis. In fact, two recent papers published in the July/August 2009 *American Journal of Health Promotion*^{10,11} estimate that a permanent 100 calorie a day reduction would eliminate approximately 71.2 million cases of overweight/obesity and save \$58 billion annually in medical expenses to yield an estimated boost in economic productivity of more than \$100 billion annually.

Conclusion

By providing these new estimates showing consumers what one simple change in the diet can achieve in reduced fat and calories, it is hoped this evidence can be used to put healthy eating into a new context, so Americans will be motivated to act. Especially now, when empowering messages about healthy eating are so important for weight management, results-oriented facts and information tools that show consumers how to make small but important “upgrades” in their diets are especially needed and can be the impetus for behavior change.

22 Meal Options**Breakfast**

- Bacon and eggs
- Ham omelet
- Pancakes and sausage
- Sausage, egg and cheese sandwich
- Sausage and potato scramble

Lunch

- BBQ sandwich
- Beef sloppy Joe
- BLT sandwich
- Grilled chicken salad
- Hamburger on bun
- Hot dog with sauerkraut on a bun
- Open faced roast beef sandwich with gravy
- West coast beef chili

Dinner

- Beef spaghetti sauce with spaghetti
- Ginger beef stir fry
- Italian meatloaf
- Polish Kielbasa
- Roast beef with gravy
- Shepherd's pie
- Spicy beef tenderloin with black bean salsa
- Tanga London broil
- Traditional beef lasagna

References

1. National Center for Health Statistics, CDC. Prevalence of overweight, obesity and extreme obesity among adults: United States, trends 1960-62 through 2005-2006, December 2008
2. Finkelstein et al. Annual medical spending attributable to obesity: payer- and service-specific estimates. *Health Affairs* 27 July 2009; w822 – w831
3. Ogden et al. Obesity Among Adults in the United States, NCHS Data Brief, November 2007
4. Wang et al. Obesity, Volume 16, Number 10 / October 2008
5. Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in US children and adolescents, 2007–2008. *JAMA* 2010;303(3):242–9.
6. National Center for Health Statistics. Health, United States, 2004 with Chartbook on Trends in the Health of Americans. Hyattsville, MD; 2004.
7. U.S. Surgeon General. Overweight and Obesity: Health Consequences. Rockville: MD; 2001.
8. Freedman DS, Zugno M, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *Journal of Pediatrics* 2007;150(1):12–17.
9. Natural Meats and Poultry Survey commissioned by Whole Foods Market in April 2006.
10. Dall T M, Fulgoni V L et al. Potential Health Benefits and Medical Cost Savings From Calorie, Sodium and Saturated Fat Reductions in the American Diet. *American Journal of Health Promotion*. July/August 2009. Vol, 23. No. 6, 412-422
11. Dall T M, Fulgoni V L et al. Predicted National Productivity Implications of Calorie and Sodium Reductions in the American Diet. *American Journal of Health Promotion*. July/August 2009. Vol, 23. No. 6, 423-430